Virginia Medical Monthly

Official Publication of the Medical Society of Virginia

Vol. 61. No. 12.
WHOLE No. 993.

RICHMOND, VA., MARCH, 1935

$2.00 A YEAR
25 CENTS A COPY

FINAL RESULTS OF BIRTH CONTROL BALLOT

The following questionnaire was mailed to all members of the Medical Society of Virginia on January 1, 1935:

1. **Do you favor birth control?** **Please state objections if you have any.**
2. **Do you prescribe contraceptives?**
3. **What kind of contraceptives do you advise?**
4. **Do you give this advice for any other reason than the preservation of health?**
5. **What is your specialty?**
6. **Post office address.**

—o—

Total number of ballots sent out	**1,833**
Total number of answers to this time	**400**

Attitude according to Specialty

Specialty	Total	Yes	Yes with reservations	No	Per cent favorable
General Practice	200	126	32	34	79
Obstetrics and Gynecology	39	28	9	1	94.87
Other Specialties	161	141	10	6	93.78
Total	400	295	51	41	86.5

Note—13 gave indefinite answers and are not included in tabulations.

Attitude according to Location

Location	Total	Yes	Yes with reservations	No	Per cent favorable
Urban	207	166	28	9	93.7
Rural	193	129	23	32	78.75

Objection Stated

Religious	11
Race suicide	4
Sexual abuse	8
Injurious to health	1

Do You Prescribe Contraceptives?

Answer	Number	Per cent
Yes	242	60.5
No	127	31.75
Unanswered	31	7.75

—o—

A similar questionnaire recently sent out to the doctors of Michigan gave the following results:

Number of ballots sent out	**1,846**
Number ballots returned	**1,745**

	Number	*Per cent*
For birth control	**1,538**	**83.37**
Against birth control	**207**	**11.21**

A NEW CONCEPTION OF PELLAGRA.*

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Any discussion of pellagra that is not in entire concord with the Goldberger theory of dietary deficiency, especially vitamin G, is certain to precipitate controversy if not acrimony. To do this, however, is not my object. I do not claim to have finally solved the problem of either the etiology or of the treatment of pellagra and I should like to say at the onset that I have high regard for Dr. Goldberger's work and that I feel he made invaluable contributions to our knowledge of this devastating disease. His theory, I think, has put necessary emphasis on what is probably the chief factor in rendering the individual susceptible to pellagra, but we should not shut our minds to further consideration, investigation or even speculation as to the cause of a disease that is still responsible for the death of thousands of the citizens of Southern States each year.

As evidence that pellagra is still a death dealing disease and that it caused more deaths during the "fat years" of prosperity when food variety was better than during the "lean years" of depression in spite of the fact that two severe droughts also occurred during these lean years, the following statistics are presented.

U. S. PUBLIC HEALTH SERVICE—DR. W. H. SEBRELL

Reports Death Rate in Pellagra in the Registration Area

Year	*No. of Deaths*	*Rate per 100,000*
1927	5,418	5.0
1928	6,969	6.1
1929	6,793	5.8
Total	19,180	
Less	1,097—for two states not registered in 1927	
	18,083—during the "fat" years	
1930	6,333	5.3
1931	5,091	4.3
1932	3,694	3.1
Total	15,118—during the "lean" years	

*Read by title at the sixty-fifth annual meeting of the Medical Society of Virginia, at Alexandria, October 9-11, 1934.

VIRGINIA—DR. W. F. DRAPER

Reports Number of Cases of Pellagra Reported, Number of Deaths and Death Rate

Year	*Number of Cases Reported*	*Number of Deaths*	*Death Rate*
1926	238	116	4.9
1927	411	156	6.5
1928	460	193	8.0
1929	352	228	9.4
Total	1,461	693—"fat" years	
1930	811	217	8.9
1931	696	200	8.2
1932	530	127	5.2
1933	188	115*	4.7*
Total	2,225	659—"lean" years	

*Subject to change on account of delayed reports.

ALABAMA—DR. J. N. BAKER

Reports Number of Cases of Pellagra Reported and Number of Deaths

Year	*Number of Cases Reported*	*Number of Deaths*
1926	647	502
1927	754	552
1928	823	698
1929	882	670
Total	3,106	2,422—"fat" years
1930	623*	635
1931	1,120	448
1932	702	350
1933	566†	355†
Total	3,011	1,788—"lean" years

*Only a limited number of the cases occurring in a state are diagnosed and reported.
†Provisional.

LOUISIANA—DR. J. A. O'HARA

Reports Deaths Due to Pellagra

Yeath	*Number of Deaths*
1927	333
1928	333
1929	286
Total	952—"fat" years
1930	278
1931	240
1932	177
Total	695—"lean" years

GEORGIA—DR. DANIEL L. SECKINGER

Reports Number of Deaths from Pellagra

Year	*Number of Deaths*	
1926	425	
1927	617	
1928	846	
1929	871	
Total	2,759—"fat" years	
1930	713	
1931	563	
1932	492	
1933	419*	
Total	2,187—"lean" years	

*Provisional and subject to correction.

FLORIDA—DR. HENRY HANSON

Reports Number of Deaths from Pellagra

Deaths "fat" years—1926-27-28-29	953
Deaths "lean" years—1930-31-32-33	840

NORTH CAROLINA—DR. D. F. MILAM

Reports Death Rate in Pellagra

Year	*No. of Deaths*	*Rate per 100,000*
1926	459	15.5
1927	688	22.8
1928	860	28.
1929	953	30.4
Total	2,960—"fat" years	
1930	1,015	31.2
1931	696	21.5
1932	405	15.0
1933	386	11.5
Total	2,502—"lean" years	

MISSISSIPPI—DR. H. C. RICKS

Reports Death Rate in Pellagra

Year	*Rate per 100,000*
1922	24.4
1923	22.2
1924	22.0
1925	29.5
1926	29.3—normal years
1927	35.4
1928	38.0
1929	36.6—"fat" years
1930	28.5
1931	26.6
1932	15.0—"lean" years

Deaths for 1933 have not been tabulated.

MISSISSIPPI—DR. H. C. RICKS

Reports Number of Cases of Pellagra

Year	*No. of Cases*	
1926	7,393	
1927	11,847	
1928	13,874	
1929	13,928	
Total	47,042—during the "fat" years	
1930	10,173	
1931	11,226	
1932	5,741	
1933	5,856	
Total	32,996—during the "lean" years	

A survey of the foregoing tables will show that in Virginia the number of *reported* cases was greater for the four lean years of depression than for the fat years of prosperity, Alabama's *reported* cases were slightly greater during the fat years, and in Mississippi the number was greatly more during the four fat years. I haven't the statistics of *reported* cases from other states. Reported cases, as far as statistics are concerned, are most unreliable for many cases are not reported. However, nothing is more certain than death and there was not a single instance in which, in the seven Southern States investigated, that the *number of deaths* during the fat years of prosperity was not greater than during the lean years of depression. This was further confirmed by the death rate statistics of the registered area from the United States Public Health Service.

Dietary deficiency, including that of vitamin G, probably contributes to the susceptibility to pellagra, and so, in a lesser degree numerically, does chronic alcoholism, chronic tuberculosis, chronic digestive disturbance, prolonged mental states, and morphinism. But there must be a "Madam X" in this house of disease and death, or pellagra would not occur in such startling preponderance south of the Potomac, nor in this area would it have such definite place selectivity, nor would it appear acutely, right before our eyes and under our noses, in institutions where all the patients are on the same diet, nor would it have such a definite seasonal relationship, nor would it have cleared up and recurred in the same patient long before anything was known of vitamin G or other vitamin feeding, nor would it occur as a rule in only one member of a family, nor would it,

at times, be almost epidemic, nor would it be likely that its pathological manifestations would be, almost consistently, in certain cutaneous areas, in certain parts of the alimentary canal and in certain portions of the nervous system.

The disease was first accurately described and reported in this country by Dr. Searcy, of Alabama, in the early part of the present century and the present superintendent of the Alabama Insane Hospitals, Dr. W. D. Partlow,[1] most intelligently argues against the dietary cause of pellagra in favor of an infectious theory. He stresses the fact that during the height of pellagra in the south he visited southern and northern institutions and, while the dietary was practically the same, there was not a single case in the northern institutions; he feels that, as evidence of infection, pellagra was much more virulent and fatal in its early invasion of this country and that it has become more attenuated as the years pass; he also believes that if the dietary experiments tried for pellagra had been performed in connection with tuberculosis the same beneficial results would have been obtained.

An editorial in the *Journal of the American Medical Association*[2] for February 21, 1931, states that in 1924 the death rate from pellagra was 2.5 in each hundred thousand, and rose in 1928 to 5.7, and in 1929 to 5.5. The editorial went on to say that there was much in the incidence of pellagra to suggest a microbiotic etiology. It then cited the theory of Bliss that iron deficiency was a possible cause, and then says many clinical students of pellagra still believe that the last word regarding the nature of the disorder has not been spoken.

Dr. S. D. Blackford,[3] of the University of Virginia, in a paper read before this society at its meeting last year, indicates that pellagra could be cured, at least in some cases, by a balanced diet regardless of vitamin G. In my experience with the disease, which has extended back to 1909, many cases have recovered without yeast, liver or much food supposed to be rich in vitamin G. Dr. Sebrell,[4] of the United States Public Health Service, states, wisely, I think, that he prefers to use the term of an unknown "pellagra prevention vitamin" in the place of vitamin G. Inquiry from six Southern State hospitals reveals the fact that the superintendents of four of these institutions reported the development of pellagra in patients on the so-called pellagra prevention diet and two reported no development. This diet is supposed to consist of sweet milk, buttermilk, skim milk and evaporated milk; lean beef, lean pork, liver, corned beef, canned salmon, haddock and other fish, kale, turnip tops, spinach, cabbage, green peas, green beans and tomatoes.

If people developed pellagra when not on a vitamin G or a pellagra preventive diet, then the hundreds of millions of people of Japan, China, India, Egypt, to say nothing of many other countries, would be devastated by the disease. But, in fact, pellagra is very rare or non-existent in these countries. Liver feeding is almost specific for pernicious anemia, still the lack of liver eating does not cause pernicious anemia. No one ever heard of vegetarians being susceptible. Just because some dietary element or elements benefit or prevent pellagra is no reason to believe that the lack is the cause of pellagra.

It has been stated that there is no drug treatment indicated in pellagra. With this I disagree. It would appear to me that iron and arsenic, even more than liver, are useful in certain stages to combat the anemia and dilute hydrochloric acid should be given when this is absent in the gastric juice. I have also found that frequent doses of castor oil, recommended by Dr. McCall, of LaGrange, Ga., are valuable in the acute diarrheal stage.

Let us now consider the possibility of a virus infection as the cause of pellagra. Among the virus diseases are acute anterior poliomyelitis, smallpox, herpes zoster, influenza and that form of encephalitis which follows influenza. Pellagra much more resembles these diseases in its epidemiology, place incidence, seasonal tendency, and its acute, chronic and recurrent forms, than it does scurvy, rickets, beri-beri, malnutrition and other dietary deficiency diseases. Extensive differential diagnoses cannot here be attempted and a brief comparison to acute anterior poliomyelitis shall have to suffice. Both pellagra and infantile paralysis have epidemic forms; both sweep over large areas of the country, but infantile paralysis selects chiefly the colder areas,

1. Partlow, W. D., *Alabama Medical Journal*, December, 1931.
2. Editorial, *Journal A. M. A.*, Vol. 96:8:614, February 21, 1931.
3. Blackford, S. D., *Virginia Medical Monthly*, June, 1934.
4. Sebrell, W. H., *Virginia Medical Monthly*, June, 1934.

for instance, north of the Potomac River, while pellagra occurs south of the Potomac; both have seasonal occurrence; both have place (local) incidence; infantile paralysis occurs chiefly in childhood while pellagra chiefly in pre-mid-life adulthood; both rarely affect more than one member of a family, indicating individual susceptibility; both attack the nervous system although in different areas; and both have marked trophic disturbance, infantile paralysis mainly in certain muscles, pellagra in certain cutaneous and mucous membrane lesions.

But the pathology is the most important factor pointing to the possible cause of pellagra, greater than merely its clinical study, and the pathology of pellagra has been largely neglected. In the examination of two brains, six cords and one sympathetic ganglionic chain presented by me at the American Neurological meeting in June, 1934, and another ganglionic chain since examined, pellagra was found to affect the brains but slightly, the cords diffusely and especially in the cervical and lumbar enlargements, and the spinal sympathetic ganglionic chains extensively. A review of the literature was made in that paper. From this study I was led to the conjecture that a virus would be the most likely agent to cause this neuropathological distribution. It is well known that the virus of influenzal-encephalitis has especial selective affinity for the basal ganglia, that of infantile paralysis for the anterior horn cells of the cord, and that of herpes for the posterior ganglionic cells of the sensory roots. It is well known that the pathology of these diseases is not always confined to these selective areas but that encephalitis can affect other parts of the brain and even the cord, that poliomyelitis may expand to constitute a polio-myelo-encephalitis, and that herpes zoster may lead to a virus encephalitis. It is my belief that pellagra in its pathology is chiefly a disease of the nervous system with a selection for the sympathetic ganglionic chain but that it may also involve the cord and even at times the brain.

In support of the contention that the pathology of pellagra is chiefly neurologic, I call attention to the literature of autopsies of the central nervous system, In my paper before the American Neurological Association, not yet published, I presented slides of brains, cords and spinal sympathetic ganglia. I now present slides of another spinal sympathetic ganglia case showing marked degeneration. As far as I can ascertain, Harris,[5] of New York, in his book on pellagra, was the first other observer who has called attention to the fact that there are changes in these ganglia. Langworthy[6] found marked pigmentary changes in the cells of the autonomic and sensory ganglia in one case.

Further, in 1916, I[7] stated that the cutaneous lesions of pellagra corresponded to the distal part of the cutaneous area of distribution of certain posterior nerve roots. Our present pathological studies seem to strengthen this previous observation. Further still, Denton[8] in twelve autopsy studies, and others also, have found but little disturbance of the small intestines but practically constant changes in the mouth and colon. This leads me to feel that not only are the skin lesions in all probability due to trophic disturbance of cordo-ganglionic origin, but that the gastro-intestinal lesions are also due to this pathology. Both the gastro-intestinal and the cutaneous lesions appear to be trophic rather than self instituted.

Reflex and other organic neurological signs are found in probably 25 per cent of the run of pellagra patients, and mental symptoms are, of course, not infrequent. Organic neurological signs and mental symptoms are common to practically all very severe cases. Spinal cord involvement will account for the organic neurological signs, while a general toxemia with, at times, infiltration to the brain, will, I think, account for the psychoses, and spinal ganglionic sympathetic chain involvement with its spinal cord connections for the cutaneous and gastro-intestinal manifestations. A filtrable virus is certainly the most likely cause of such distribution of involvement.

The points to be considered in this study are that:—

The Goldberger theory of a dietary deficiency, especially vitamin G, being the entire cause of pellagra should be modified to being a contributing cause.

5. Harris, H. F., Pellagra. Macmillan & Co., New York. 1919.
6. Langworthy, Orthello R., *Brain*, 54:291, September, 1931.
7. Tucker, B. R., International Clinics, 1: Series 26, 1916.
8. Denton, James *Amer. Jour. Trop. Med.*, 5:173-210, March, 1925.

XUM

The "pellagra preventive vitamin" diet does not always prevent pellagra.

Pellagra in this country consistently caused more deaths during the "fat" years preceding the depression than during the "lean" years of the depression and drought.

Pathologically, pellagra seems to be a neurological disease because the cutaneous and gastro-intestinal lesions, as well as the nervous and mental manifestations, of pellagra appear to be of neurological origin.

Pellagra may have especial selective action on the spinal sympathetic ganglionic chain.

Pellagra more closely resembles disease of virus origin than that of food or vitamin deficiency or of infectious organism origin.

Finally, let me say that the whole question of pellagra should be re-opened just as it was after the maize theory seemed to have settled it. There is need of facilities and money for further investigation and experimentation which is beyond the grasp of an individual worker. A much larger series of spinal sympathetic ganglia should be studied. The portal of entrance of a possible pellagra virus should be studied, the relation of the cutaneous and alimentary canal lesions to the spinal sympathetic ganglia and the spinal cord should be confirmed or denied, the relation of visceral disturbance in pellagra to the spinal sympathetic ganglia should be ascertained and solutions from the spinal sympathetic ganglia and spinal cords of patients immediately dead of pellagra should be made and tested upon animals and possibly upon condemned criminals. When these things are done the story of pellagra will be a different story.

NOTE:—I am indebted to Dr. Frank Apperly, Professor of Pathology of the Medical College of Virginia, for an autopsy supplying a cord and the sympathetic ganglia in one case, and to Dr. Pusch and Dr. Ingersoll, of the Medical College of Virginia, for their work in preparing and staining the slides for this paper and aid in the pathological interpretation of these slides. I am also indebted to Dr. H. C. Henry, of the Central State Hospital, Petersburg, Virginia, for two brains and cords and two chains of spinal sympathetic ganglia of pellagrins, and to Dr. J. R. Gill, for detailed clinical histories of these cases; to Dr. J. H. Pound, of Chattahoochee, Florida, for two brains and cords; also to Dr. Walter Freeman, for two cords of pellagrins and a cord of a case of ascending central neuritis for comparison; also to Dr. C. F. Williams, of the South Carolina State Hospital, Columbia, South Carolina, for posterior ganglia. I also wish to thank the health officers of Virginia, North and South Carolina, Georgia, Alabama, Florida, Mississippi and Louisiana and Dr. Francis Wheeler and Dr. W. H. Sebrell, of the United States Public Health Service, for certain statistics on the incidence and mortality of pellagra. I am indebted to Dr. W. D. Partlow, of the Insane Asylums of Alabama, for a copy of his discussion of the etiology of pellagra.

212 West Franklin Street.

THE PROGRESS OF SURGERY DURING THE LAST FORTY YEARS.*

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When invited by Dr. Gill to address you on this occasion I asked him what the subject should be. On his replying that I could select my own subject, I suggested discussion of the U. S. Constitution or a subject in Surgery, being not unwilling to criticise the Constitution, and express my disapproval of all the amendments from the 13th to the 19th, inclusive. If there had been more doctors in Congress some of the amendments would never have been adopted. Dr. Gill preferred a subject in Surgery such as Improvements in Surgery During the Last Forty Years. While including a somewhat longer period of time, I shall speak chiefly of the surgery of the brain, the heart and the lungs. First, a few general preliminary remarks.

What are the greatest discoveries in the history of Medicine?

1. Correct knowledge of anatomy. Previous to the time of Vesalius, Galen and others taught that man had one less rib than woman, suggested by the Bible account of the creation of woman; that the sternum consisted of seven bones, and that the uterus was a two-horned organ as in some of the lower animals. Vesalius ran great risk owing to

*Address at the post-graduate exercises at the Gill Memorial Eye, Ear and Throat Hospital, Roanoke, Va., April 12, 1934.

the prohibition of dissection by the Church and was forced to get his material by stealth. In this way he secured the skeleton of a criminal who had been hanged in chains in Louvain and roasted alive. The birds had picked the bones clean of the cooked flesh and left a good skeleton.

2. The circulation of the blood. The correct account given by Harvey, completing the work of the martyr Servetus and others.

3. We make a leap of two hundred years, during which there was little of importance done, when we come to the discovery of anesthesia, the work of several men, as has often been the case in the development and completion of some great law or principle. There is no doubt that Long first used ether as a general anesthetic, and he was soon followed by Morton, Jackson and Wells in causing its general adoption. The ancients used alcohol in some form as an anesthetic. When one is dead drunk his sensations are very much diminished.

4. The discovery of antisepsis and asepsis by Lord Lister, aided by the work of Pasteur.

5. Bacteriology, the science of which was established by Pasteur, Koch, and many others, showing the agents which cause infection, how to recognize them, cultivate them, and by inoculation produce the original disease. These three, anesthesia, asepsis and bacteriology, make the trilogy of modern surgery.

6. The Röntgen ray, one of the most wonderful discoveries in nature and one of the greatest aids in diagnosis, was the result of the work of several men. The electric egg of the Abbé Nollet, who, in 1753, used glass globes in which the air had been exhausted and became luminescent on passing an electric current through them. In 1878 Sir William Crooke sealed two metallic discs inside the globe, anode and cathode, and wonderful phenomena occurred on passing an electric current through them, causing Sir William to speculate on a new world, where matter may exist in a fourth state. In 1895 William Röntgen, while using a Crooke's tube, discovered the remarkable penetrating powers of the rays. My first acquaintance with the use of the Röntgen or X-ray was in February, 1897, when I examined an apparatus used in Philadelphia and of which, with Dr. T. Richie Stone, I had charge and helped to manage in a Washington Hospital to which it was transferred. I soon gave up my part in its management as I was sure there were many things about it not then understood and I did not care to take the risk. One of my friends who took charge of the work soon after, and has continued in it as a specialist, has lost one hand and several fingers on the other hand. Too much cannot be said as to the great value of the X-ray in revealing to sight almost every thing within the human body, especially foreign bodies; the position of fractured or dislocated bones, their shape and density; the heart, lungs and hollow viscera when properly prepared by filling with a comparatively impervious material. It is also being used, more and more, as a therapeutic agent for the destruction of neoplasms, a use which it shares with radium, another wonderful material discovered and isolated by the Curies in 1898 after Becquerel had called attention to the great penetrating power of uranium. Radium is even more dangerous than the X-ray in the inability to restrict its destructive action to malignant tissues without injury to the normal structures.

Operations on the skull, trephining, were evidently performed in ancient times, perhaps ten thousand years ago, as shown by the skulls found in Western Europe, Bolivia, Peru, Mexico and Central America. The advances in brain surgery are chiefly in methods leading to more accurate diagnosis and improved technic with suitable instruments, as the osteoplastic flap made with the Hudson trephine, Gigli wire saw and DeVilbiss forceps. In diagnosis, ventriculography, pneumatic, by skull or spinal puncture and X-ray; Queckenstedt's test for obstruction of the spinal canal; Barany's tests; and the more expert use of the ophthalmoscope. Dandy has shown that the right cerebral hemisphere can be removed without causing death or interfering with speech or mentality, only the loss of motion and sensation on the opposite side. He has also removed the choroid plexus from the lateral ventricle for internal hydrocephalus, and has given us another operation for cutting the posterior root of the Gasserian ganglion, by opening the skull in the occipital region and partially dividing the posterior root at the pons. The great reduction in mortality during the last forty years is shown by comparing the statistics of operations on the Gasserian ganglion or its roots. Then, in the hands of the best operators, the mortality was from 10 to 15 per cent; at the present time, under like conditions, it is about 1 per cent.

XUM

It is a far cry from Erichsen's opinion that surgery had reached its greatest efficiency some sixty years ago and that of Billroth who said "Let him who expects to retain the respect of his colleagues refrain from touching the human heart," to the present time when you can read in a medical journal a report of 428 cases of operations on the heart.

The ancients believed that a wound of the heart was inevitably fatal, but Paré, in the 16th century, began to doubt it after seeing a soldier, who had received a sword wound in his heart, chase his antagonist some distance before succumbing. However, little or nothing was done in surgery of the heart until the 19th century, after the birth of the great trilogy of surgery, though a few operations had been done on the pericardium to evacuate fluid. It is said that Baron Larrey, of whom Napoleon remarked "He is the most virtuous man I have ever known," tapped the pericardium. In the latter part of the 19th century many experiments on the heart of lower animals were made, especially by Italian and German surgeons, which proved that wounds of the heart in dogs, when sutured or even packed with gauze, were not always fatal. Finally, in 1896, Farina, of Rome, sutured a stab wound of the right ventricle of the human heart and the patient died on the sixth day, but from pneumonia, living long enough to indicate success as far as the operation on the heart was concerned. The same year Cappelen sutured a wound of the left ventricle, with death from pericarditis three days later. In 1908 I collected the histories of 150 patients in whom the heart had been sutured for penetrating wounds—with a mortality of 65 per cent. In the last twenty-five years many other tables of operations on the heart have been published with a smaller mortality, which may be explained by including wounds not penetrating the cavities of the heart, and even in some cases, wounds of the pericardium only, whereas, in my table, only penetrating wounds requiring suture were included. Probably a mortality of about 50 per cent would be right now. Naturally, the size of the wound in the heart and the time elapsing before operation would be the two most important factors in spelling success or failure. Pyopericardium, in spite of operation, has given a high mortality and the resulting adhesions, in cases of recovery, frequently disable the heart to such an extent as to require other operations, as Delorme's cardiolysis, separating the layers of the adherent pericardium, or Brauer's and Petersen's resection of the costal cartilages over the heart, thus reducing the pull on the chest wall. In 1913 Sauerbruch resected a portion of the pericardium and since then this operation, pericardiectomy, has grown in popularity, with some very good results. It has been found possible to remove almost or quite the entire parietal pericardium with advantage to the patient. Some animals do not have a pericardium anyway.

Surgery of the large blood vessels has developed remarkably, as in the treatment of aneurysms, the anastomoses, and substitution of one vessel for another or one part of a vessel to take the place of a removed segment, and the removal of clots by embolectomy. The vena cava inferior has been ligated completely in nineteen cases with six deaths (Pfaff), and it has been proved that ligation of the aorta does not necessarily cause death, one patient living more than two years after such an operation and dying of another disease.

Surgery of the trachea and lungs. On these organs the progress of surgery has been remarkable. Tracheotomy for the removal of foreign bodies or for obstruction in the larynx, trachea or bronchial tubes, is an old operation, but the invention of instruments and the acquisition of the skill to use them and avoid a cutting operation is a development of the last half century with which the names of Bouchut, Killian, O'Dwyer, Coolidge and Jackson are intimately connected. Seeing children suffocate from diphtheritic exudate, in spite of tracheotomy, which was probably done as a last resort, prompted Joseph O'Dwyer to invent a tube to fit in the larynx and trachea, the early use of which caused no objection as there was no cutting. This was well enough for cases of stenosis, but what of foreign bodies which often lodged in the trachea and bronchial tubes and remained fast in spite of efforts to expel them by turning the patient upside down, beating him in the back, and even tracheotomy followed by blind groping in the trachea with forceps? In 1898 Coolidge used a urethroscope through an opening in the trachea and reflected sunlight from a head mirror to remove a piece of hard rubber tubing from the right bronchus of a patient (Jackson). About 1904 a distally lighted bronchoscope was invented, and soon the

beneficent effects of the use of this instrument, especially due to the teaching and practice of Chevalier Jackson, were, and are still being seen in the removal of foreign bodies from the air and digestive passages, in the suction of viscid mucus from the bronchi in atelectasis and the first stage of pneumonia, and especially in making the diagnosis of neoplasms and inflammatory conditions. In fact, according to Jackson, "Today only about 2 per cent of endoscopies are done for foreign body, the other 98 per cent being for the diagnosis or treatment of disease." It is impossible to estimate the number of patients who have been cured or relieved by the use of the bronchoscope or œsophagoscope in the hands of a skilful physician. It is perhaps not an exaggeration to say that it is the greatest surgical procedure which has been developed during the last twenty-five years.

Great advance is seen in the surgery of the lung, such as selecting the best method of drainage in empyema of the pleura and the best method of obliterating a lung cavity or a chronic suppurating pleural cavity, whether by artificial pneumothorax, pneumolysis, excision of ribs or of the phrenic nerve; the removal of foreign bodies and tumors from the lung; and the surgical treatment of bronchiectasis, tuberculosis and gangrene of the lung. Portions of the lung had been removed for tuberculosis many years ago, but with a prohibitive mortality. However, during the last twenty-five years, owing to the work of Lilienthal, Graham, Whittemore, Archibald and others, lobectomy, the removal of an entire lobe for bronchiectasis, tuberculosis, gangrene or malignant neoplasm has come into good standing as a surgical operation in certain cases. The mortality is high, about 50 per cent, and the prognosis is much more favorable in young persons. The use of the Melzer-Auer, or endotracheal method, of anesthesia, enabling one to control the pressure in the lungs, has contributed largely to the success of such operations.

A few words about abdominal surgery, so aptly called the playground of the surgeon, a specialty which has developed chiefly within the last fifty years. Some scattering operations were done previous to this time, but wounds of the abdomen, gunshot and stab, were rarely operated upon. Appendicitis and gall-bladder diseases were almost unrecognized. The recognition and treatment of appendicitis are due almost entirely to the work of American surgeons, among whom the names of Fitz, Park, Buck, Sands, McBurney, McArthur, Morton and Deaver must be mentioned as most prominent in convincing the profession of the frequency and importance of this disease.

Bobbs, in 1868, removed fifty stones from the gall-bladder successfully, and in 1868 Marion Sims, by a similar operation, removed sixty stones. Langerbüch, in 1882, removed the gall bladder. Previous to 1900 such operations were followed by a high mortality—Courvoisier 40 per cent, Eve 40 per cent, and Schuller 56 per cent. After 1900 the mortality fell rapidly to from 1 to 6 per cent in the hands of Mayo-Robson, Tait, Greig, Smith, Kehr, and the Mayos.

The first complete gastrectomy was done in 1883, unsuccessfully, by Phineas Conner. In 1897, Schlatter did the first successful complete gastrectomy, his patient living thirteen months without a stomach and dying from recurrence of the disease. The mortality in something like a hundred cases is about 50 per cent.

In the last century operations for hernia were rarely done except for strangulation when it was usually too late to do any good. Some operations were performed for radical cure, removing the testicle on that side. This operation, naturally, never became popular. In the evolution of the operation, the next step was to devise some method which would cure the hernia and not injure the spermatic cord. Among the pioneers in devising such an operation must be mentioned the name of Dr. Henry O. Marcy, a former U. S. Army surgeon. His object was to restore the tissues of the inguinal region as nearly as possible to their normal condition by eliminating the sac and restoring the natural obliquity of the inguinal canal by uniting the structures behind the cord up to the internal ring, reducing its size to normal, and those in front of the cord from above downward, reducing the external ring to the proper size. He used kangaroo tendon introduced by means of a special needle with the eye near the point and in the form of the shoemaker's stitch. I learned this operation from Dr. Marcy in 1889. In 1894 I visited Dr. Bassini, in Padua, Italy, and saw him perform his operation for the cure of hernia. He used silk, not catgut or kangaroo tendon, or the shoemaker stitch,

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but the principle and object were the same, namely the restoration of the normal obliquity of the inguinal canal with reduction of the size of the rings and safeguarding the spermatic cord, as those of Dr. Marcy. An attempt to explain Dr. Marcy's method to him did not succeed in exciting his interest. The thousands of operations for the cure of inguinal hernia that are done today are all based on the same principles as those of Marcy and Bassini, whether catgut, silk, kangaroo tendon, or auto-graft fascia sutures are used, along with some unimportant modification.

Many other notable improvements in surgery deserve mention, such as splenectomy for certain blood diseases; operations for acute pancreatitis; the great variety of plastic operations on the skin, bones, joints and viscera; the success in uretero-colonic implantation; the treatment of syphilis since Schaudinn's discovery of the treponema in 1905, the Wassermann test in 1906, and Ehrlich's discovery of 606 in 1910; the prompt surgical treatment of intestinal obstruction, of gunshot and other wounds and diseases of the abdomen; and the surgery of the prostate gland, including the recent second revival, with many improvements, of the Bottini-Freudenberg operation of many years ago, no doubt a very useful and life-saving operation in certain selected patients. The operation is now done under vision and the obstructing portions of the prostate are gradually shaved away, using the electric cautery for hemostasis.

Only an imperfect sketch of the numerous advances in surgery that have been made in the last forty years has been given. It may well be said that by far the greatest number of discoveries and improvements which have contributed so largely to the science and art of surgery have been made within the last one hundred years. What of the future? When we recall the prophecies of Billroth and Erichsen and see how far they have missed fulfillment, and realize the triumphs of physics and chemistry, as in the telegraph, the X-ray, the radio and the flying machine, who would dare to predict the limits of the surgery of the next one hundred years?

1718 I Street, N. W.

CALCIUM—ITS METABOLISM AND DEFICIENCY AS A RHINOLOGICAL AND OTOLARYNGOLOGICAL PROBLEM.*

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Medicine as an art has been drifting, slowly, but surely towards preventive medicine. The last decade has evidenced this by prophylactic sera and public health endeavors. Today we are being recalled to an elemental study of biochemistry, especially blood chemistry, as a new phase of preventive effort. This study seems fundamental, in so far as it is directed towards the medium of interchange between the blood and the cell itself. Its point of attack is the cellular interspaces, and while our knowledge is relatively scant, the recent detailed study of the chemistry of the blood and its clinical application promises much.

The pendulum of medical practice swings from extreme to extreme, and only time and disillusionments result in a rational and conservative determination of true values. From radical surgery in rhinology and otolaryngology we seem to be seeking a more sane position somewhere between radical surgery and conservative medicine. Our specialty is considered a branch of surgery, but it might better be conceived of as a hybrid, largely dependent upon internal medicine for its existence and a full realization of its fruits.

Fortunate or unfortunate as it may be, it is a far cry from the old family physician to the highly specialized otolaryngologist. The mean results of these extremes, however, bids fair to produce an especially trained surgical internist, far more desirable than either of the predecessors. The ophthalmologist or otolaryngologist who limits his thoughts and studies to these organs of special sense alone

*Read before the Virginia Society of Otolaryngology and Ophthalmology, at its annual meeting in Lynchburg, Va., May 5, 1934.

bids fair to be hopelessly left behind and few will there be who mourn his passing. There are few diseases of the eye which are not symptoms of diseases elsewhere, and, though less so, the ear, nose and throat are also frequently dependent upon dysfunctions of remote organs.

Cellular chemistry presents a challenge to every one of us to adapt ourselves to this modern trend and give our patients the benefit of medical consideration, as well as surgical interpretation. The conservative methods might well be tried, where indicated, and only when failure occurs should surgery be undertaken. When to operate is surgery's greatest problem and it should be more to our credit to conservatively cure than to cut.

With these few remarks in mind, I have chosen to review with you, in the light of recent literature, the study of calcium. It is evidently impossible to catalogue all that is of value in our literature on therapy. From culling the literature, I have chosen to limit my remarks to the early cases of calcium deficiency. If, by focussing your attention on these cases, some further light can be shed so as to recognize them before the gross changes of tetany, osteomalacia, celiac diseases, etc., have developed, then my efforts will have been well worth while. My choice and its presentation are the personal elements, and for its shortcomings I beg your indulgence.

Calcium, a mineral element, is found in the normal body in the form of its salts, the phospates and the carbonates. It is absorbed as such from the upper portion of the intestinal tract and carried by the blood serum to be utilized by the tissues or deposited in the skeletal structures. This latter store-house for calcium is analogous to the liver's function in relation to glycogen.

This absorption of the calcium salts from the intestinal tract is dependent upon many factors, the more important of which will be discussed briefly:

1. Hydrogen ion concentration in the intestinal tract is lower, or acid, in its upper portion, due to the hydrochloric acid from the stomach. It gradually becomes more alkaline, the hydrogen ions concentration being higher towards its lower portions. Solubility is necessary for absorption and the calcium salts are highly soluble in acids, but relatively insoluble in alkaline media. It is evident, then, that a factor such as achylia gastrica, which diminishes materially the acidity of the intestines, diminishes also the absorption of calcium.

2. Phosphates, which are soluble in an alkaline medium, are absorbed chiefly from the lower intestine. If they are in the upper intestines in larger proportions than calcium, the latter may be precipitated as the insoluble tertiary calcium phosphates.

3. Fatty acids are the result of fat metabolism, and these unite with calcium salts to form the insoluble soaps, which are excreted as such. Large amounts of fat in the upper intestinal tract markedly diminish calcium absorption. Such fatty stools are readily noted in sprue, celiac disease and jaundice.

4. Vitamin D and sunshine, antirachitic factors, increase the calcium level of the blood serum. Whether this is the result of aid in calcium absorption from the intestinal tract, some intermediary metabolism of calcium and phosphorus, or as Taylor, Sykes and others from Toronto have recently advanced experimental data to show, raise the blood calcium by withdrawing it from its store-house, the skeleton, is a mooted question. If the latter is the case, it is highly improbable that viosterol is of value in increasing the calcium supply, unless it is only assimilable after having been stored and then withdrawn.

5. Parathyroid activity is an important factor in calcium metabolism, increasing the level in direct ratio to its secretion. After parathyroidectomy, hypocalcium becomes extreme and tetany with the other more severe manifestations results.

By blood calcium, we mean the amount of calcium in the serum element. The normal for this is generally accepted as 9 to 11 milligrams per 100 c.c. of blood. Serum calcium is considered as containing 4.5 to 5.5 mg. per 100 c.c. of diffusible calcium, or that portion which is in such a form as to pass readily through a parchment membrane. This property of diffusibility makes it usable as it passes readily through the capillary or cell walls. The remaining 4.7 to 5.75 mg. of the serum calcium per 100 c.c. of blood is non-diffusible and probably inert. About 2 mg. of the diffusible fraction is in form of calcium ions, which is the form which produces pharmacological action. This ionic calcium varies inversely as the phosphate and carbonate ions, and directly as the hydrogen ions.

The normal adult is in a state of calcium equilibrum, but, by dietary and metabolic alterations, a positive level or hypercalcemia, or a negative level or hypocalcemia may be developed. Hypercalcemia seldom, if ever, occurs clinically, but hypocalcemia

is probably much more prevalent than formally believed.

Calcium exerts a profound effect upon tissue by lessening the permeability of the cell membrane. This is probably responsible for the beneficial effect in diseases where edema predominates. Vascular tone and cell nutrition is improved, thus establishing its value in chronic debilitating diseases, especially tuberculosis. The coagulation time of the blood may be decreased by the proper administration of calcium over a period of time. A soluble, non-irritating salt should be administered one-half hour before meals where the intestinal acidity is highest.

A. E. Wright found that the local edema following injection of virulent vaccine could be checked by injections of calcium chloride. It has been more recently demonstrated by Herman and Zentner that tissue susceptibility to inflammation varied inversely to the diffusible calcium in the blood. This lessened susceptibility is probably affected by (1) increased motility and numbers of leukocytes; (2) decreased permeability of the blood vessels and lining membrane; (3) diminished sensibility of the sympathetic and parasympathetic nervous system.

The estimation of the blood calcium is of value, but chiefly so when determined in the light of ionic or diffusible calcium. It is highly probable that the usable form of calcium is often low, and tissue starvation exists even when the whole serum calcium is well within limits of normal. Any determination of blood calcium below 9 mgs. per 100 c.c. of blood should be considered low.

Calcium may be found deficient in many mild alterations of cellular function before the symptoms of profound hypocalcemia, such as tetany and osteomalacia are noted.

In the eye, especially in phlyctenular conjunctivitis or keratoconjunctivitis, calcium is often found deficient in the blood. The duration and frequency of recurrences in these conditions are apparently diminished, as shown by Colmer. F. P. Fischer demonstrated a striking clearing of the vitreous and improvement of vision with large doses of calcium. Uveitis and lesions due to hypersensitiveness are benefited by its use in some cases. Relief of pain, absorption of exudates, diminution of frequency of recurrences and shortening the inflammatory course in these conditions seem to be its virtues. Its use intravenously in acute vitreous hemorrhage, recurrent retinal hemorrhages and one case of post-operative iris hemorrhage has met with immediate arrest in my hands.

It is probably in rhinology and otolaryngology that we see the most beneficial effects from calcium therapy. The nose and throat are frequently the points of weakness at which mild or severe hypocalcemia causes frank cellular dysfunctions of great variations, which make their accurate classification and symptom correlation very difficult. Sherman emphasizes the fact that on insufficient calcium intake the child may develop in weight and height, apparently normally, but ossification of the bones is not sufficiently dense to act as an adequate storehouse supply in adult life. He thinks that a number of weaknesses or susceptibilities are the result of calcium deficiency. Some people may respond to this deficiency, at any age, by frank disease at some point of least resistance or may be just below par.

SYMPTOMS

Susceptibility to colds with a history of one following another during the winter or even continuous colds should lead us to suspect calcium deficiency. These patients are frequently affected even in warm weather upon the slightest exposure. People who are housed up and seldom get sunshine and fresh air seem prone to hypocalcemia. The history of a diet poor in calcium, or with little milk or cheese, should point to this condition. A history of lassitude and lack of endurance in children and young adults is a frequent occurrence and is associated with loss of muscle tone, poor posture and often myopia. Their mentality may be sluggish and school-work is difficult, being accompanied by indifference on the part of the child and many complaints from the teacher.

The patient may be of normal weight and appearance, but is usually rather sallow and pale. Mouth breathing is frequently present, although the tonsils and adenoids have usually been removed, but without relief of the obstructive symptoms complained of. They may be even more susceptible to colds after the tonsillectomy, and the lateral pharynx may be swollen and velvety red. On inspection of the nose, we see bridges of mucus and the mucosa pale and thickened. A fairly constant finding is edema about the anterior and posterior

tips of the middle turbinate, with no frank sinus lesion. With this picture, symptoms of sneezing to frank allergic rhinitis are often associated. The discharge may vary from watery or sticky mucus to a purulent discharge, depending on any accompanying sinus infection. This discharge is not profuse in uncomplicated cases, and most of it goes postnasally.

Post-nasal drippage and chronic pharyngitis, with bronchitis, tracheitis and a bubbling cough may be associated with the above picture, but are most often associated with graver changes in the nose or sinuses above.

Soft teeth which hold their fillings poorly and decay easily, tingling and numbness of the extremities, which "go to sleep" easily, are other indicative signs and symptoms.

Enough details have been enumerated here to point out that, while a fairly clear syndrome may occur, it is often obscured by accompanying lesions which befog the picture of calcium deficiency. Probably the first symptoms are increased susceptibility to infections, decreased cellular secretion and edema of the mucosal surfaces. These may readily be important etiological factors in purulent sinus infections.

TREATMENT

In considering treatment of calcium deficiency, one naturally thinks of food, the natural source. Sherman considers 0.45 grams of calcium per day the actual body requirement, but for safety this minimum for an adult should be increased to at least 0.75 grams.

To meet this requirement, Bernheim believes that foods, thought in the past to be high in calcium, such as green vegetables and fruits, are unsatisfactory because of the great bulk necessary. Also, because much of the calcium is lost in the "pot liquor" resulting from usual cooking methods. She thinks that milk and cheese, four glasses of the former and one-quarter pound of the latter, meet the daily requirements alone as no other sources do.

It must be remembered, however, that no matter how great the amount of calcium taken in, if it cannot be absorbed and assimilated, a deficiency will result. Therefore, any method to increase the acidity of upper intestinal tract may be of service, and with this in mind any calcium salts given to supplement the diet should be given one-half hour before meals while the stomach is empty.

There are many forms of calcium on the market, a few of the best being the gluconate, dicalcium phosphate, the lactate and the chloride. To immediately raise the blood calcium level for such acute conditions as hay fever, asthma and eczemas, the intravenous or intra-muscular use of calcium is of value. Its effect on the blood calcium is very transient however. The gluconate is probably the most desirable salt for this use, as the chloride causes tissue destruction in case of leakage from vein or intra-muscular injections. I have seen two very serious ulcers for the careful use of the chloride before the gluconate was available.

Excessive fats and phosphates should be avoided in the diet. Lactose has a favorable effect on calcium absorption and may be added to the diet.

Of all the factors which affect calcium absorption, vitamin D in the form of viosterol, or supported cod liver oil, sunshine and parathyroid extract are the most valuable. They should be used freely, together or separately, as the case may require.

In conclusion, I wish to say that in children the calcium level should be kept positive by dietary or other methods, for in this way we probably have one method of combating susceptibility to diseases which are prone to lead to infections of the paranasal sinuses.

THE MANAGEMENT OF DIABETIC PATIENTS IN PRIVATE PRACTICE.*

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Diabetes is an important disease. Two per cent of all people die with diabetes. Among 2,611 deaths in Richmond in 1932, fifty-five were caused by diabetes, the eighth most frequent cause of death. There probably are three or four diabetics among each 1,000 people in the total population. This means

*Read before the Southside Virginia Medical Association, Suffolk, Va., June 12, 1934.

that in Virginia there are about 8,000 diabetic patients. The incidence of diabetes is increasing, probably for three reasons. We make urine and blood tests more frequently now than we did in years gone by. Thus we detect diabetes in many cases that otherwise would have been overlooked. A second reason for the increased incidence is that the diabetics, especially the children, are living year after year; whereas prior to insulin, they died within a short time. A third reason is the increasing longevity[1] of the general population, due in part to the falling death rate from tuberculosis.[2] With a greater number of elderly people, the incidence of diabetes increases, because diabetes is a disease which manifests itself more often in the older individuals. It becomes obvious that diabetes is an important problem, and that it behooves us to detect it and to treat it well.

The cause of diabetes is unknown. Heredity seems of real importance,[3] but we must not be content with such an explanation. We must know the mechanism of production so that we may endeavor to control the disease. The obese elderly person and the tall, thin child are more apt to develop diabetes than others. Although Jews are very susceptible to this disease, it rarely ever occurs in a thin Jewish adult. The influence of the thyroid, pituitary, and adrenal glands is not adequately understood. Nor is diabetes always associated with an obviously diseased pancreas.

For the diagnosis of diabetes, a blood sugar test is almost essential, because about 10 per cent of all cases with sugar in the urine are not true diabetics. Glycosuria combined with a blood sugar value above 164 mg. after meals or above 134 mg. before breakfast is evidence of true diabetes,[4] although there are a few exceptions to this. If a patient has thirst, hunger, polyuria, loss of weight, weakness, or stubborn or frequent infections, diabetes is usually suspected; but there are other syndromes that are also significant. An elderly person who has pain or paresthesia in the legs at night or muscular weakness of the legs deserves blood and urine tests. So does a person with precocious arteriosclerosis. Very often there are no symptoms, and this indicates the need of routine urinalysis on all persons coming to the doctor. I believe this is particularly true for the dermatologist. Insurance examinations have revealed many an unsuspected case of diabetes. Dr. Tudor,[5] of Norton, recently made an eloquent plea for a careful search by each doctor for diabetes among his patients.

The prognosis in well-treated diabetics is very good, although diabetes is rarely if ever cured. Such children are growing and developing normally and are leading lives comparable to those of nondiabetics. They attain maturity, follow various professions (although, because of the danger of tuberculosis, nursing seems inadvisable), and raise families of their own. With the recent methods of treatment, the elderly diabetic often continues his usual activities, and many of them outlive their life expectancy. In recent weeks, I heard a doctor state that a diabetic child should be allowed to die, because she could never lead a useful or satisfactory existence. He maintained that the diabetic regime prevented a contented life. In answer, I may say that the diabetic child and the family and friends disagree heartily with him. It is a deplorable fact that occasionally such a gloomy view is held. I believe it is provoked by ignorance of the condition and life of the well-treated diabetic of today.

Successful treatment demands unflagging attention to detail. Leave nothing to conjecture. When upsets occur, gather the necessary data and from them determine the proper treatment. Tell the patient in detail what to do and when and how to do it.

Diabetes mellitus is a condition in which food is not adequately utilized. Two cardinal dietary principles are that *a diabetic must not consume too many calories* and that *he must eat no sweets*. A third rule is necessary for insulin patients particularly, and it is that *a diabetic eat a definite mount and only at regular intervals*. Treatment in the past was based on the belief that the diabetic could metabolize all food other than carbohydrate. The sweet and starchy foods were eliminated from the diet, and fat prescribed in unlimited amounts. Then Allen found that the total amount of food was very important, and the under-nutrition principle of treatment was evolved. This principle is used whether the diet is low or high in carbohydrate. It must not be ignored. Then insulin was discovered, and this changed the treatment to some extent, and results of treatment to an even greater extent, notably in children. However, although the mortality from coma decreased, the mortality from arteriosclerosis increased. This was attributed in part to the high fat

content and low carbohydrate content of the diet. Since then, the ratio of carbohydrate to fat has steadily increased until at present the number of grams of carbohydrate nearly always exceeds the grams of fat. A suitable ratio in grams of carbohydrate to fat is about 3 to 2. The effect of this change of diet on the arteries is still not entirely clear; but it seems that the arteriosclerosis is not so great as formerly, certainly less frequent in children. Moreover, the patients are better satisfied with the diet and do not suffer so much from languor and lassitude. An average diet for an elderly diabetic is composed of carbohydrate 140 to 150 g., protein 70 g., and fat 90 to 100 g., depending on the state of nutrition and activity of the patient and his response to the diet. The caloric intake should be adjusted to the nutrition and activity of the patient. Patients more than thirty-five years old should be about 5 per cent under-weight; those under thirty-five years about 5 per cent over-weight.

First establish the diagnosis, and then initiate treatment. If a patient knows nothing of the treatment which he must have, admit him to a hospital for regulation of his disease and instruction in its management. Keep low his hospital bill by making each day count. Have him study, and study him. It is the intelligent and well-trained diabetic who leads the healthiest and most nearly normal life. He should be taught something about foods and the dietary substitutions allowed. He should be able to inject insulin if this is needed. He should learn to test his urine and to recognize the indications of trouble. It is essential that a diabetic know when to see his doctor and what to do until the doctor arrives. He should know how to live so as to deviate least from the normal path.

There are basic food substances which nearly everyone needs. We usually provide for this by supplying a skeletal diet to which we may add as the needs of the patient become manifest. Such a diet follows:

BREAKFAST

Grapefruit, ½ (200 g.)
Bread, ½ slice (15 g.)
Cooked oatmeal, ½ cup (15 g. dry)
Egg, 1
Bacon, 2 long strips (15 g.)
Butter, ½ pat (5 g.)
20% cream, 4 oz. (120 g.)
Coffee

LUNCH

Consommé
Meat, small serving or 2 oz. (60 g.)
5% vegetable, large serving (150 g.)
10% vegetable, moderate serving (75 g.)
Potato, size of egg (60 g.)
Butter, 1 pat (10 g.)
Orange, 1 medium (100 g.)
Tea or coffee

SUPPER

Meat, small serving or 2 oz. (60 g.)
5% vegetable large serving (150 g.)
10% vegetable, moderate, serving (75 g.)
Bread, ½ slice (15 g.)
Butter, 1 pat (10 g.)
Orange, 1 (100 g.)
Milk, 6 oz. (180 g.)

This diet contains carbohydrate 103 g., protein 66 g., fat 86 g.

There are two types of diabetics, one who receives no insulin and one who takes insulin. In general, if a diabetic is loaded with sugar and is in a hospital, I give him insulin until his sugar has been properly reduced. If he remains free of sugar on an adequate diet without insulin, insulin is not continued. Otherwise, he should continue insulin as long as it is needed to assure the utilization of sufficient food.

After the sugar has been reduced, the diet may be increased daily or every two to four days, depending on the number of days in which the patient will remain under close supervision. One slice of bread (1 oz. or 30 g.) may first be added, then a small potato (60 g.), then another orange (100 g.) or a comparable amount of some other fruit; next ½ pat of butter (5 g.), and finally two ounces of milk. This final diet contains carbohydrate 146 g., protein 73 g., and fat 92 g., a total of 1,704 calories, which is adequate for many diabetics. Further additions may be made in a similar manner. Various cereals, fruits, meats and vegetables should be used when possible. Substitutions, such as fish or cheese for meat, potato for bread, and cereal for bread, may be made in the proper amounts. One must, of course, provide some extra butter if fish be given for meat, because many fish contain no fat. Similarly with other substitutions. A table giving the composition of various foods is almost essential in this work. I cannot emphasize too strongly that when we mention some food, we mean that food alone. When we say cabbage, we mean nothing but cabbage.

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We do not mean cabbage cooked with extra meat. When we say an egg, we mean just that and not an egg fried in extra grease. If one wishes a fried egg, he must use part of the allotted butter for frying the egg; or, if he prefers, he can use mineral oil. If one wishes salad dressing, he must decrease his diet accordingly or else make mayonnaise with mineral oil. The "extras" of a meal are often to blame for a gain in weight or an uncontrolled diabetes. Condiments are used as they are by non-diabetics. The diabetic fluids without food value include water, tea, coffee, cocoa shells, and clear broth. It seems to me that few people could complain of the diet outlined above. It resembles the diet of a normal person in almost every respect except that it contains no sweets, i. e., sugar and allied substances. It satisfies the appetite. It can be easily obtained at home, at restaurants, or at the residences of one's friends. A diabetic should not form the habit of using saccharine. Six half grain saccharine tablets daily are not apt to harm the patient directly; but this causes a persistence of the desire for sweets and may lead to dietary indiscretions. It is the doctor's duty not only to prescribe the diet, but also to induce the patient to adhere to it.

Naturally any diet must be adapted to the patient's needs. A peptic ulcer requires a modification of the diet, as do certain other diseases. We should endeavor to maintain the stated proportion of carbohydrate, protein, and fat; and we should make sure that the diet is not deficient in the elements needed for a normal existence.

Insulin is used in many cases. It enables a doctor to effect a rapid reduction of the sugar so as to shorten the duration of hospital treatment. It tides certain patients over a period when infection or enforced inactivity causes a disturbance of the diabetes. It maintains life and health in patients who, without it, would die or remain at least partially incapacitated. It is a useful and potent substance that should be used properly. One must know its limitations as well as its uses.

When initiating insulin therapy, one should remember that a too rapid, as well as a too great, lowering of the blood sugar may be harmful. Especially is this true in the cases with hypertension or arteriosclerosis. An abrupt vascular accident, such as coronary thrombosis or apoplexy, may be associated with too vigorous treatment of the diabetes. In the absence of acidosis, an initial dose of five units of insulin is ample. See the effect of that before increasing the dosage. Observe the patient carefully and make frequent tests of the urine and blood sugar at different times during the day. In the hospital all urine should be saved and tested. Even in the home this procedure is practical. Determine each day the effect of treatment of the preceding day.

The following charts illustrate the course of treatment in several cases. They show the faults as well as the virtues of this treatment.

The first case, No. 3, is that of an old man who had had diabetes for thirteen years and angina pectoris for six years. He had never taken insulin.

CASE NO. 3—70 YEARS OLD—ANGINA PECTORIS. WT., 70 KG.

Date	*Urine Sugar*	*Blood Sugar mg. per 100 cc.*	*C g.*	*P g.*	*F g.*	*Cal.*	*Insulin*
8	7%	267	83	57	71	1199	None
9	4%		98	60	72	1280	None
10	1.8%		120	67	96	1612	None
15	0.7%						None
16	0		132	69	96	1668	None
20	1.3%	183	150	72	96	1752	None
24	0						None

The second case, No. 6, is that of an old lady who has had diabetes for fourteen years. She was sent to me because dietary measures proved to be inadequate during the course of an otitis media.

(She had been advised to take 1 orange or 4 oz. of ginger ale at bedtime; but she had discontinued this prior to the reaction.)

The third case, No. 9, is that of an elderly lady of 58 years whose diabetes became upset when an infected callus appeared on the toe. She had had diabetes for nine years, and had never taken insulin.

(The urine is recorded in four samples which are collected separately to indicate the amount of sugar excreted after each meal and during the night. The

first specimen is from breakfast to lunch, the second lunch to supper, the third supper to bedtime, and the fourth from bedtime to breakfast. This 4-period test is very useful in determining the proper distribution of insulin.)

CASE NO. 6—73 YEARS OLD—HYPERTENSION, ARTERIOSCLEROSIS. WEIGHT 50 KG.

Date	*Urine Sugar*	*Blood Sugar*	*C*	*P*	*F*	*Cal.*	*Insulin*
31	2.3%	381—Noon					None
1	29 gm.	222—9 P. M.	121	57	73	1369	0-4-4
2	20	308—Noon	125	56	81	1461	6-0-5
3	19		135	58	83	1527	8-0-5
4	8	333—Noon					10-0-10
5		221—Fasting					12-0-10
6	11	286—Noon					Same
9	3						Same
11	3	240—Noon					Same
16	0	118—Insulin reaction—2 A. M.					8-0-5

(Blood taken 20 minutes after orange had been eaten)

After the sugar has been adequately reduced and the diet and the required amount of insulin determined, one should endeavor to see that the insulin dosage is properly distributed. Usually, if the daily dose does not exceed 10 units, the total amount is injected before breakfast. If two doses are required to maintain the blood sugar within the normal range, one dose is given before breakfast and one before supper, the breakfast dose being slightly larger than the other. If a third dose is necessary, about 2 to 6 units are given at bedtime. Rarely is it necessary to give a third dose at noon. The noon dose is inconvenient. The patient is then apt to be at work or at school. Furthermore, the action of insulin persists for about eight hours, so that the breakfast dose usually cares for the noon meal also. The injection of the same dose before each meal is often inadequate and even harmful. The morning blood sugar may be very high, and yet the repetition at noon and supper of the morning dose may give rise to an insulin reaction in the late afternoon or night. This mistake is often made. Rarely, four doses of insulin are needed daily. In such case the breakfast dose is the largest, the supper next, the noon next, and the bedtime dose is the smallest. With a total dosage of 51 units the distribution would be approximately this, 20-10-15-6. Insulin is given subcutaneously about twenty minutes before meals.

It is well to outline on the antero-lateral aspect of the thighs a diagram for the injection sites.[6] The use of one small patch of skin daily for a long period causes thickening and scarring of the tissue. This is not only unsightly but may interfere with the absorption of insulin or contribute to infection. Patients should boil the syringe and needle each time; but an alcohol container, in which the syringe and needle are kept, is permissible during trips from home. In this case, boiling twice a week is advisable.

CASE NO. 9—58 YEARS OLD—HYPERTENSION AND ARTERIOSCLEROSIS. WEIGHT 65 KG.

Date	*Urine Sugar*	*Blood Sugar*	*C*	*P*	*F*	*Cal.*	*Insulin*
9 (office)	4+	280—Noon	91	60	83	1351	0
14 (hospital)	4+ -0-0-0	240—Noon	120	70	90	1570	0-3-3
15	0-0-0-0	274—Noon					5-0-5
16	0-1%-.5%-0	280—Noon	130	70	90	1610	8-0-8
17	0-0-0-0		140	70	90	1650	12-0-8
18	0-0-0-0	198—Noon					

The danger of insulin reactions must not be overlooked. The most frequent time for them is about four hours after the insulin has been injected, but occasionally the reaction is much delayed. In young people they are not so dangerous, but in people with arteriosclerosis even one reaction is to be avoided carefully. Death has occurred during hypoglycemia. One must also consider the danger of a reaction in certain lines of activity. Swimming, automobile driving, working on a roof, etc., are dangerous when one has a reaction. He may drown or have some other unlooked for accident because he has lost consciousness or judgment. Different situations, such as vomiting or exercise, increase the chances of hypoglycemia. Don't forget that in coma or infection the need for insulin may decrease rapidly. To avoid

insulin reactions, we must be alert to reduce the insulin promptly when necessary. The reactions appear abruptly within a few minutes or less. The usual symptoms are hunger, sweating, trembling, weakness, and emotional instability. When anything unusual happens to a diabetic, make the needed tests and act accordingly. Insulin reactions almost always respond within a few minutes to the administration of orange juice or sugar. The insulin patient takes two precautions to avoid trouble. He always has at hand sugar or fruit. It is by his bed at night and in his pocket in the day. He is never without it. He also carries an identification card stating his name, his address, his disease, and the fact that he takes insulin. If he is found unconscious, his card requests that the nearest doctor be called and that consideration be given to the question of insulin shock and diabetic coma. After the immediate treatment of the reaction, one must seek the cause and so regulate the diabetes that recurrences do not occur.

After diet and insulin, comes exercise. Exercise keeps the patient in good condition and helps to lower the blood sugar. Many patients learn the value of exercise. One man found that a game of golf enabled him to reduce his insulin five units.[4] A set of tennis may replace many units of insulin. A reduction of the preceding dose of insulin or the addition of about ten grams carbohydrate is advisable before unusual exercise.

One must learn to juggle the distribution of the insulin and the diet to help ward off insulin reactions and to counteract the effect of exercise. It may be necessary to give the breakfast fruit at 10:30 or 11:00 in the morning so that the blood sugar does not fall below normal.

The final measure in the control of the diabetes is to care for the general condition of the patient. Infection and inactivity increase the need for insulin. Then let us try to prevent infection and sickness. The diabetic should keep clean. A boil may induce diabetic coma. He should keep his skin and mouth clean, treat his epidermophytosis, trim his nails properly, attend to corns and calluses and ingrowing nails. Electric pads and hot water bottles are looked on with disfavor. Strong antiseptics, such as iodine, are equally as dangerous. Emphasis on these apparently trivial matters may prevent gangrene or coma. Above all, impress the diabetic with the importance of attending promptly to any ailment, no matter how slight.

You may have noticed that I neglected to discuss the diabetic child and diabetic coma. The treatment of each is not easy. It requires not only intimate knowledge of the disease and the child, but also abundant time. The control of diabetes in children is a problem that must be studied assiduously, and we lack the time for its discussion. About coma, I should like to say that it demands continuous attention, preferably in a hospital, until all danger has passed and the acidosis is over.

Let me repeat: There are four weapons with which we may combat diabetes. They are *diet, insulin, exercise,* and *care of the patient's general condition;* and if our treatment is successful, he will feel in good condition. Close supervision of a patient is the best insurance available. Coma results from neglect of the diet or insulin, or it may be the result of negligence in promptly investigating and treating an untoward symptom such as infection or vomiting. One cannot always prevent a change in the status of the diabetes, but he can attend to it promptly. Periodic examination is essential and the responsibility for this rests partly on the doctor.

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SODIUM HYDROSULPHITE IN THE TREATMENT OF POISONING BY MERCURIC CHLORIDE.*

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Some eight years ago, after attempting to weigh the evidence as to the value of various measures proposed for the treatment of poisoning by mercuric chloride, the belief was expressed that "antidotes for mercuric chloride must be looked upon as better fitted for affording mental solace to physician and patients rather than as being capable of accomplishing a detoxication of the poison."[3] Calcium sulphide,[4] albumin,[2] sodium thiosulphate,[6] bismuth subnitrate, acacia, and magnesium sulphate:[8] all of these have been found of no practical value when tried under properly controlled conditions.

In 1925, Hesse[7] reported that sodium hydrosulphite, $Na_2S_2O_4$, was capable of detoxicating mercuric chloride in the gastro-intestinal tract and that the administration of this salt was followed by the recovery of animals after what would have been, otherwise, a fatal dose of the poison. Thus, it was found that eleven of twelve control rabbits died from a dose of 35 mgm. mercuric chloride per kilogram; while of eight animals given this dose of the mercury salt and treated in ten minutes by oral administration of sodium hydrosulphite, 0.2 gram per kilogram, six recovered. Indeed, when there was as great a lapse of time as thirty minutes between administration of the above-stated doses of mercuric chloride and sodium hydrosulphite, three out of a series of five rabbits survived.

So far as we are aware, these results of Hesse's are the most favorable that have been reported prior to that time; disregarding the instances where no satisfactory control observations had been made. However, since Hesse drew his conclusions solely from experiments on rabbits and it has been shown[5] that results following the use of these animals do not always agree with those obtained on dogs, it seemed desirable to attempt confirmation of Hesse's work, substituting dogs as experimental animals.

Hesse abandoned the use of dogs because of the occurrence of emesis almost invariably following administration of the antidote. It has been our experience that emisis may occur from the administration of mercuric chloride alone, even when the animals have previously received large doses of morphine sulphate (20 mgm. per kilogram subcutaneously), but in the cases where this does take place, its occurrence is usually delayed so long after administration of the poison that it seems of little moment. In our first experiments, therefore, carried out in February, 1929, morphine alone was used for premedication; 20 mgm. per kilogram being injected subcutaneously. Eight animals were employed, being paired as nearly as possible as regards weight, approximate age, and general condition. After twenty-four hours, during which the animals were allowed free access to water but received no food, the morphine was injected. When depression was pronounced (in from twenty to thirty minutes), mercuric chloride, in the form of a freshly prepared 1 per cent solution in distilled water, was administered through a rubber tube, connected with a burette and passing into the stomach. Tubing and burette were filled by pressure from below, to insure absence of air bubbles. In these and subsequent experiments, the dose of mercuric chloride was 25 mgm. per kilogram.

Of the eight dogs in this first group, four served as controls and four were given sodium hydrosulphite, in the form of a 10 per cent solution, 100 mgm. per kilogram, exactly six minutes after they had received the mercuric chloride. Three of the treated animals vomited almost immediately after administration of the antidote; two of the controls, likewise, vomited, one within five minutes after the mercury had been given. Three of the controls died within from two to five days; one control and all of the treated animals survived for at least a month, at which time they seemed in excellent condition.

The prompt emesis of the dogs receiving sodium hydrosulphite naturally raises the question whether recovery of these animals was due merely to re-

*The experiments forming the basis for this report were carried out in the Pharmacological Laboratory of the Medical College of Virginia, Richmond, Va.

moval of unabsorbed poison from the stomach by the vomiting. In the next group of eight dogs, therefore, in addition to 20 mgm. of morphine sulphate, 100 mgm. of chloretone per kilogram were injected intraperitoneally. The animals were rather deeply narcotized, and none vomited during a period of one hour following administration of the antidote to the four treated animals. In this group, the time lapse between poison and antidote was thirty minutes. Three of the controls died in from one to two days; one control and two of the treated animals survived the month's period of observation. Of the two treated animals that succumbed, one died in twenty-four hours; the other, on the tenth day.

In the next group, consisting of six dogs, the dose of chloretone was decreased to 50 mgm. per kilogram and the thirty-minute interval allowed to elapse between administration of poison and of antidote. One of the treated animals vomited fifty-five minutes after receiving the hydrosulphite, but succumbed two days later, as did all of the controls and one of the other two treated animals.

In the remaining experiments, dial-urethane solution (containing 10 per cent diallyl-barbituric acid and 40 per cent urethane in aqueous solution) was substituted for chloretone because it is easier to handle and seems to cause little or no local irritation after intraperitoneal injection, the dosage being 0.25 c.c. per kilogram. The time interval between administration of the poison and of the antidote was decreased to fifteen minutes. A total of thirty-two dogs, divided into four groups was used. Two of the control and two of the treated animals vomited; all of these succumbed. The mortality among the sixteen control animals was 100 per cent; that among those receiving the sodium hydrosulphite was 62.5 per cent.

The results we have obtained with dogs confirm, in a measure, those observed by Hesse with rabbits. It is our impression that sodium hydrosulphite is of some value for lessening the toxicity of mercuric chloride in the alimentary canal but that its use by no means renders it possible to dispense with gastric lavage and colonic irrigation; the first of these measures we feel is still the most important in the treatment of poisoning from oral ingestion of mercuric chloride.

The results of all our experiments are summarized in the following table.

Date	Hg. Cl. Mg. x Kg.	No. of Controls	No. of Treated	Time Interval Between Poison and Antidote	Mortality Controls %	Mortality Treated %
*2-26-29	25	4	4	6 min.	75	0
†3- 5-29	25	4	4	30 min.	75	50
†3-13-29	25	4	4	30 min.	75	75
†3-19-29	25	3	3	30 min.	100	66
‡4-10-29	25	3	3	15 min.	100	66
‡4-16-29	25	4	4	15 min.	100	50
‡4-25-29	25	4	4	15 min.	100	50
‡5-10-29	25	5	5	15 min.	100	80
Total		31	31		90.3	54.8

*Morphine 20 mgm. per kgm. alone as premedication.
†Morphine, 20 mgm. per kg. and chloretone, 50 or 100 mgm. per kgm. as premedication.
‡Morphine, 50 mgm. per kgm. and dial-urethane solution, 0.25 c.c. per kgm. as premedication.

Fortunately, sodium hydrosulphite may be easily obtained, and, moreover, appears to be non-toxic in the dosage recommended by Hesse.[7] This author finds that as much as a gram per kilogram orally or 0.2 gram per kilogram intravenously may be administered with no serious untoward manifestations in laboratory animals. He states, moreover, that human beings tolerate well single doses of a gram or repeated daily doses of 0.2 gram for as long as a week.

In the treatment of clinical poisoning by mercuric chloride, we suggest thorough gastric lavage, preferably with 1 to 1000 solution of sodium hydrosulphite. Delay in instituting lavage should not occur; if the hydrosulphite is not immediately available, the stomach should first be washed out with plain water, to be followed later by the hydrosulphite solution. Within six to eight hours, the patient should be given 0.25 gram of the salt in gelatin capsule, and a similar dose should be repeated four times daily for at least a week. Fluids should be forced by mouth if possible, by rectum, subcutaneously, or even intravenously if vomiting is pronounced. Gastrice lavage should be repeated on the second and third days; it seems unnecessary to repeat this procedure more often. High colonic irrigation with 1 to 5000 solution of sodium hydrosulphite may be carried out immediately after the first gastric lavage, and the irrigation repeated on the second and third days.

Unfortunately, it is seldom that a patient is subjected to treatment within a half hour after ingestion of mercuric chloride; consequently, one must always reckon with the probability of more or less

absorption of the poison from the alimentary canal. The recent reports by Rosenthal,[9] indicating that dogs may be saved from otherwise fatal doses of mercuric chloride by the intravenous injection of sodium formaldehyde sulphoxylate, are of the greatest interest. Having in mind the statement of Burmeister[1] that "irrecoverable damage to the kidney" may occur as soon as three minutes after oral ingestion of mercuric chloride in massive doses and the failure of Sansum[10] to influence the course of poisoning by any measures employed, once a barely fatal dose of mercuric chloride has been introduced into the blood stream, we must confess to having been definitely pessimistic as regards the "parenteral" treatment of mercury poisoning. The feeling of pessimism was increased, if anything, by the statement of Hesse,[7] who used Rongalit (sodium formaldehyde sulphoxylate) in 1926 by intravenous injection, that "we must say that the problem of parenteral detoxication is still unsolved" (". . . mussen wir sagen, dass das Problem der parentralen Entgiftung offen bleibt"). It is true that this author observed recovery of two out of eight rabbits following sulphoxylate therapy, but his report does not contain details sufficient to warrant conclusions other than those drawn by him. It is to be hoped that Rosenthal's later work, which carries every indication of having been carefully controlled, will be repeated by other investigators in order that the value of sodium formaldehyde sulphoxylate can be definitely established. In the meantime, it seems quite certain that the substance is safe to use; consequently, its clinical employment is to be recommended, in spite of the contradictory statements of Hesse and of Rosenthal regarding its efficacy as an antidote for mercuric chloride. Rosenthal stresses the necessity of using a purified preparation, sealed in ampules, from which a solution is to be prepared immediately before use. He recommends gastric lavage with a 5 per cent solution, to be followed by intravenous injection of 10 grams of the salt in 100 to 200 c.c. of distilled water.

In conclusion, it may be said that the results of Hesse[7] on rabbits, which have been confirmed partly by us on dogs, indicate that sodium hydrosulphite, an easily obtainable salt, is of some value for detoxication of mercuric chloride in the lumen of the alimentary tract. Sodium formaldehyde sulphoxylate, the intravenous injection of which in the treatment of mercuric chloride poisoning was first suggested by Hesse,[7] seems, in the hands of Rosenthal,[9] to possess a high degree of efficacy as an antidote to mercuric chloride; but, in view of Hesse's unsatisfactory results, confirmation of Rosenthal's work is desirable.

NOTE:—Since the submission of this paper, Hull and Monte (*Southern Medical Journal*, Vol. 27, p. 918, November, 1934), and Brown and Kolmer (*Jour. of Pharmacology and Experimental Therap.*, Vol. 52, p. 462, December, 1934), have reported observations on the use of sodium formaldehydesulphoxylate, indicating that Rosenthal's claims were unjustifiable and that, in the dosage recommended by Rosenthal, the supposed antidote may be dangerous.

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A STUDY OF CONVULSIVE DISORDERS AT THE UNIVERSITY OF VIRGINIA HOSPITAL SINCE 1920.*

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Epilepsy is an age-old clinical state, yet it is always new, for every practicing physician sees a few new cases yearly. It is estimated that there are at the present time 500,000 epileptics in the United States. During the past twenty years the subject of epilepsy has experienced a new era of enthusiasm, since much research and many published studies have influenced the medical profession as a whole, to have an entirely different attitude toward the individual who has fits. They no longer look upon epilepsy as a curse from God, an inherited stigma, or a hopeless disease entity, but consider it to be a symptom of some underlying condition which should be carefully studied. Therefore, at this time, when a physician speaks of epilepsy he means nothing more than a state of convulsions, a manifestation of some physiological abnormality. It has been quite interesting to note the change in attitude toward the convulsive cases and the various new diagnostic procedures that have developed in the last decade. At first very little attention was given to the diagnosis and treatment of persons with convulsions. Occasionally a lumbar puncture was done or a skull plate taken. Strange to say, quite a few patients were not advised to use bromides or phenobarbital, and were allowed to purchase patent medicines according to their own discretion. In contrast to this, at the present time, the following procedures are used in studying a convulsive case: history, physical, neurological, routine laboratory studies of blood, urine and feces; blood-sugar and glucose-tolerance studies; blood-calcium and phosphorus studies; X-ray of skull; psychiatrical studies; special glandular and allergic studies; and encephalography.

This study is a sequel to a paper presented before this society in 1930 by Dr. David C. Wilson,[1] who made a study of seventy-five convulsive cases and concluded that the home is the proper place for the undeteriorated epileptic. The present paper is a study of 180 cases who were admitted to the University Hospital from 1920 to 1934 because of seizures. Data derived from the cases studied has been arranged in several tables, and various features of epilepsy will be discussed from the tables to follow.

*Read at the sixty-fifth annual meeting of the Medical Society of Virginia in Alexandria, October 9-11, 1934.

TABLE NO. 1

Total of cases	180	
Males	123	
Females	57	
Mentally retarded	37	(21%)
Cases with positive neurological findings	23	(13%)
Patients having aura	38	(21%)
Definite heredity	37	(21%)

Table No. 1 shows a number of miscellaneous findings of interest. As you notice, the men outnumber the women 2:1, as has always been true in every series of cases studied. The usual explanation of this is that men receive more head injuries; but the fact that women have more psychogenic convulsions and are often wrongly diagnosed hysteria certainly influences this disproportion. Many patients who have convulsions are also mentally retarded; thirty-seven in this series or 21 per cent were so affected. In most of these retarded people encephalography has shown some form of cerebral tissue destruction, such as cortical atrophy, arachnoiditis or hypdrocephalus; thus a deteriorated epileptic is one that usually shows organic brain changes. Surprisingly few epileptic patients reveal positive neurological signs indicating cerebral lesions. Twenty-three or 13 per cent were found to have positive neurological signs. Lennox[2] examined the records of 844 extramural patients and found only 15 per cent showing neurological signs, but other studies show that in institutional cases positive signs are more numerous. Thirty-eight patients or 21 per cent gave a history of aura. Lennox and Cobb[3] obtained a history of aurae in 56.2 per cent of 1,359 cases studied, which checks with a previous study by Gowers, who found 57 per cent in 2,013 patients. The type of aura is important, for it often gives a clue to the cerebral localization of the seizure. Patients who give a history of

epilepsy in direct antecedents are less numerous than generally considered. In this group thirty-seven or 21 per cent gave such a history. Kinnier Wilson[5] thinks the hereditary factor has been greatly overrated and the personal or constitutional factor underrated. Lennox[6] found that only one-fifth of non-institutional cases gave a family history of epilepsy, which is the same percentage found in our series. Other recent writers report from 16 to 27 per cent.

TABLE No. 2

Total number of cases	180
1- 4 years	20
5- 8 years	22
9-12 years	25
13-16 years	24
17-24 years	32
25-40 years	33
40-65 years	14

Convulsions may begin at any age, as is shown in the above table. This report is almost identical with a similar table compiled by Lennox,[2] based on the age of onset in 1,500 non-institutional cases. He found that practically half of the convulsions which begin during the first few years of life are due to birth injuries or acute infections. Many cases beginning around puberty are thought to be influenced by glands of internal secretion. The most frequent predisposing cause of seizures between the ages of 25 and 40, is head injuries; after 40, cerebral vascular accidents or brain tumors.

TABLE No. 3

Total number of cases	58
No abnormalities found	26 (45%)
Abnormalities found	32 (55%)
Cortical atrophy	19
Arachnoiditis	4
Arachnoiditis and hydrocephalus	5
Distortion of ventricles	4

Encephalography is of much value both in diagnosis and in directing treatment, while apparently the therapeutic value justifies its use in some cases. Encephalography has demonstrated a variety of pathological lesions as probable causes of the convulsive state. Encephalograms have been done on fifty-eight cases in this series; no abnormality was found in twenty-six or 45 per cent, while abnormalities were found in thirty-two or 55 per cent. The abnormal findings are listed in Table No. 3. In this series and according to Pendergrass,[7] Ebaugh,[8] Grant,[9] and Penfield,[10] cortical atrophy and arachnoiditis are the most frequent findings. The finding of cortical atrophy in a number of cases is quite a help in directing treatment, as dehydration is of most value when this condition is present. Grant, Dixon and Ebaugh have noticed definite therapeutic value in some cases from encephalography; also a few cases in this series have shown marked improvement after air injection. Since encephalography is of value in diagnosis and aids in directing treatment, it should be used freely in handling convulsive cases.

TABLE No. 4

Total number of cases	180
Cause undetermined	115 (64%)
Cause determined	65 (36%)
Cerebral Pathology	58
Head trauma	18
Birth injury	11
Cortical atrophy	9
Brain tumor	5
C. N. S. syphilis	5
Meningitis	4
Cerebral hemorrhage	3
Arachnoiditis	2
Encephalitis	1
Glandular	5
Pituitary dysfunction	3
Pancreatic dysfunction	2
Chemical	2
Calcium deficiency	2

The contributory causes of convulsions are many, but there must be some physiological mechanism, an unknown abnormality in the vital process of the nerve cell, which is the fundamental cause of all convulsions. It is well known that two individuals may have the same cerebral damage, yet one will have convulsions and the other will not. Since the inherent abnormality of the nerve cell in the individual who has convulsions cannot be changed, the only way to influence the convulsive state is to find a contributory factor if possible and direct treatment accordingly. Taking this series as a whole (Table No. 4) a cause or contributory factor was found in 36 per cent of cases and no cause found in 64 per cent. By dividing this group into two sections—those prior to 1930 and those since 1930,—an interesting comparison is noted. Prior to 1930 there were seventy-six cases; in 21 per cent a cause was found, and no cause in 79 per cent, while since 1930 there were 103 cases; in 47 per cent a cause was found and in 53 per cent no cause. The much

larger percentage of probable causes of epilepsy since 1930 has been made possible through more careful study and the newer diagnostic procedures, especially encephalography. Cerebral pathology was demonstrated in fifty-eight cases, as shown in Table No. 4 where the various types have been listed in order of frequency. Traumatic head injuries and birth injuries are the most frequent causes of cerebral damage producing convulsions, as is shown in the above table. The "short-circuiting" theory of Cobb[11] offers a very good explanation as to how these lesions bring this about.

Very little is known concerning the influence of the endocrine system on seizures, but it certainly seems that any marked dysfunction of the endocrine system would alter the chemistry of the nerve cell. Five cases of glandular dysfunction have been found in this group; three are pituitary,[12] and two pancreatic.[13] Many workers report a much larger percentage of endocrine disorders as the cause of convulsions. Undoubtedly there are many chemical abnormalities in the blood which influence convulsions. A deficiency of calcium is the only chemical abnormality shown in Table No. 4; two patients are mentioned, both are on calcium therapy and free of spells. Lennox and Allen[14] have studied this subject rather carefully and have found the concentration of calcium in the blood and spinal fluid of epileptic patients to be within normal limits. This review of the causes of epilepsy illustrates the possibilities of careful study in these cases.

TABLE No. 5

Total number of cases	180
No follow-up reports	93
Follow-up reports	87
Dead	13
Living in institutions	12
Living at home	62
Improved	44
Unimproved	18

The results of the follow-up studies made during the past few months are as follows (Table No. 5): Definite information was obtained concerning eighty-seven patients; of this number thirteen are dead, twelve are living in institutions and sixty-two are living at home. Forty-four of the patients living at home have shown improvement and eighteen have not. The cases reported as improved are carrying on the various activities of life in a normal fashion. The various forms of therapy which these patients are using will now be discussed.

TABLE No. 6

Methods of Therapy	*Improved*	*Unimproved*
Luminal	25	11
Luminal and dehydration	5	1
Pituitary extract	2	0
Calcium	2	0
High carbohydrate diet	2	0
No treatment	5	4

Since convulsions are a symptom, treatment must be individual, based on a careful study of the patient. The steps in a good therapeutic program are: First, correction of abnormalities found, second, raising the seizure threshold, and, third, measures tending to produce a general well-being.

All physical abnormalities, such as poor posture, foci of infection, digestive and endocrine disorders, should be corrected as far as possible, as often for some unknown reason such corrections are quite beneficial. Neurosurgery should be resorted to when indicated but only one case of this series has been cured by surgery—a case of dural endothelioma. Of the cases operated upon for scars, none have been cured and all are taking luminal. Two cases are free of spells on calcium therapy, but the good results are probably influenced by other factors also. Two cases are on a high carbohydrate diet; one is a true case of convulsions arising from hypoglycemia and has not had a convulsion for two years; the other is a case of questionable hypoglycemia associated with heat sensitivity, and has had no convulsions during a period of one year.

The most common methods of raising the seizure threshold are ketogenic diet, dehydration and drug therapy. Ketogenic diet[15] as a form of therapy has not been used by any of the patients long enough to draw any conclusions. For short periods it appeared to be quite effective, but since the patients could not be hospitalized very long, and since parents would not cooperate, the effect of ketogenic diet as a form of treatment cannot be properly judged. Dehydration[16] with fluids reduced to 300-400 c.c. daily has not been used except for brief periods. Bromide therapy[17] has been used by some patients from time to time with good results, but the results were just as good with phenobarbital, and since the making of frequent blood chloride and bromide determinations was quite inconvenient, the treatment

has been discontinued. Thirty-six patients are using phenobarbital and twenty-five are improved; six are using phenobarbital along with reduction of fluids to 1,000 to 1,200 c.c. daily, and five are improved. Notkin[18] states that the introduction of phenobarbital during the past twenty years has been a real therapeutic advance. Grinker[19] strongly advocates the use of phenobarbital but says its use is not carried out to fit the patient by many physicians. The dosage must be increased and the time of administration varied to fit the individual even if the dose be increased to three grains three times daily. Toxic reactions from phenobarbital are less frequent than from bromides, especially if the blood bromide is not followed. Phenobarbital is certainly the best form of treatment for the extra-mural patient, yet it is felt that dehydration enhances its value and at times ketosis aids its effect.

Finally, every effort should be made to keep the patient in an optimal state of general well-being. The patient should be kept at home where the environment is certainly more normal than in an institution; and it is the physician's duty to improve the environment by endeavoring to educate the family, school authorities and employers to look upon seizures as they would any other abnormal symptom, such as headache. Also, the patient should be encouraged to have less fear of seizures, to enter into gainful occupation and to take part in the various civic and recreational activities of the community. Since the personality of the epileptic is protected by living in the home and in the majority of cases he is a congenial and helpful member of the family, every effort should be made to keep him out of the institution. With a healthy mental attitude any form of therapeusis will be greatly strengthened.

CONCLUSIONS

1. A change in attitude toward convulsive disorders has occurred during the past twenty years.

2. Careful study of cases reveals more new causes of seizures yearly; to this end, encephalography has been especially valuable.

3. The treatment should be carried out in the home if at all possible. From this study a combination of phenobarbital and dehydration is thought to be the best method of controlling convulsions.

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DISCUSSION

DR. FRANK H. REDWOOD, Norfolk: In a discussion of epilepsy it might be well to regard the seizure as a

symptom, which it is, rather than a disease entity, and to consider the mechanism and some of the causes of the production of the fit.

In all cases in which seizures occur there is some disturbance of the brain. Probably of first importance are seizures associated with organic brain disorders, such as brain tumor, trauma, encephalitis and the like. Then there are cases associated with general diseases, as eclampsia, Stokes-Adams disease, fevers, etc. But no matter from what causes, there are certain fundamental changes going on in the brain which are the basis for the convulsive state.

Cobb and Lennox studying heredity, concluded that there were far more epileptics among children of migranous parents than among the offsprings of epileptic parents, although they admit that there is an inheritable taint. They state that there are many "silent carriers" of the tendency to convulsions and that there must be constitutional factors present in people who develop seizures.

It has been shown by many workers that a large number of cases with seizures have increased intracranial pressure, and this is probably an important factor, yet only about 25 per cent of brain tumors, which are usually accompanied by increased intracranial pressure, cause convulsions, and seizures practically never occur in cerebellar tumors. Seizures also occur with low intracranial pressure. Epilepsy, therefore, cannot be entirely explained on the basis of increased pressure from tumors or other conditions concerned in the increase of cerebro-spinal pressure. There is certain other clinical evidence that in about 70 per cent of patients having convulsive seizures the cerebro-spinal fluid pressure is within the normal limits. According to Cobb, dehydration in the treatment of epilepsy is not beneficial through lowering of intracranial pressure.

A deficient supply of oxygen to brain cells is one very definite cause of seizures, as is demonstrated in the Stokes-Adams syndrome. Mackenzie has shown that if heart-block lasts as long as seventeen seconds, convulsions occur. Added examples of anoxemia are strangulation, carotid compression and severe hemorrhage. It is possible that the convulsions of hypoglycemia, so well described by Seale Harris, may be associated in some way with deficient oxygen to the brain. In my experience, people with a persistent low blood sugar show marked shortness of breath on slight exertion, which would tend to diminish pulmonary aeration. The known fact of oxygen lack should give us a clue in the treatment of selected patients.

Many research workers have found that in some cases there is a disturbance of the acid-base balance and that epileptics with alkalosis were much more prone to have fits than those in a state of acidosis. On this basis the old idea that meat was harmful to a convulsive patient was wrong; in fact, meat, which is an acid forming food, would seem beneficial. Further investigation along these lines will probably bring out valuable information.

Statistics vary in regard to brain trauma as a cause of epilepsy. Some authors give 4 per cent and others as high as 8 per cent in those cases where the dura was ruptured. These statistics could possibly be lowered if all acute head injuries were properly treated, the treatment being based on a thorough understanding of intracranial dynamics and a knowledge of spinal fluid production and absorption.

DR. DAVID C. WILSON, University: A striking finding during the last few years in our studies has been the occurrence in so many children and young people supposed to have so-called idiopathic congenital epilepsy, of unsuspected causes, definite signs of old inflammations or old injuries. I believe (although this is making a broad statement), that soon, through glandular studies and by other means, we are going to find that there is always some irritating cause in the brain or in the general metabolism of the epileptic or convulsive state—that there is no such thing as inherited convulsions *per se*.

Some of you may remember that in the last review of the treatment of epilepsy used in our clinic a good many different forms of treatment were used. The ketogenic diet was used but we have had so much trouble in getting it carried out adequately that we have abandoned it. I should like to hear from some of the other doctors present regarding their experience.

Dehydration, another recommended treatment, has been used only in part. We think cutting the fluids to 1,000 c.c. is all right, but the reduction of the fluid intake to 300 or 400 c.c. for a long period is not recommended. We do think that dehydration with luminal, properly used, is the best method of treatment.

Another thing brought out is that the epileptic personality is caused in the main by the reaction of the personality to society rather than by the fits.

MUSIC AND HEALTH.

EDWARD PODOLSKY, M. D.,
Brooklyn, N. Y.

Man has known of the healthful qualities of music for many hundreds of years. The first written observation of the influence of music upon the human body occurs in the oldest of all Egyptian medical papyri dating back almost 3,000 years. Homer, the immortal Greek poet, was aware of the

healing qualities of music, and he stated in lofty stanzas that it was music which stayed the flow of blood in Ulysses. The old Hebrews were also well acquainted with the calmative powers of music, and one of their early kings was saved from going mad through musical treatment.

There are many hundreds of recorded instances in ancient Greek and Roman history in which the healthful qualities of music were strikingly illustrated. Celsus used melodies as a curative procedure in insanity, and in this practice he was joined by the greatest of all Roman doctors, Galen. Martinus tells us that he was quite successful in removing fevers by song. Esculapius, the god of Medicine, cured deafness by the sound of the trumpet; Aulus Gellius is authority for the statement that sciatica was cured by gentle modulations.

As time went on the curative effects of music in certain diseases were more strikingly illustrated. Some two hundred years ago Drs. Bruckmann and Hufeland reported cases of St. Vitus dance cured by music. Dr. Desserarts also recorded that catalepsy was cured in a like manner. Another physician ascertained its influence in hysterical hypochondriac affections. A French physician, Burette, agreed with an ancient colleague that music was good for sciatica.

In fact, so widespread was the enthusiasm for music therapy during the 17th century that a pretentious work appeared, entitled, *Magis Universalis Naturae et Artis,* which contained bars of music to cure tarantula bites. This power of music to cure persons bitten by a tarantula was vigorously affirmed by Drs. Mean in England, Burette in France, and Baglivi in Italy. Their explanation of this phenomenon seems quite reasonable. They claimed that music throws the patient into a violent fit of dancing, which, by bringing on profuse perspiration, washes out the poisons and effects the cure.

Three famous rulers of history were brought back to sanity through the power of music. The first was the well-known case of King Saul of ancient Israel who was gradually brought out of a severe attack of the blues. The second was the case of Philip V, of Spain, who suffered severely from melancholia, which nearly ended in madness. Court physicians tried in vain to help him, and Farinelli, the famous castrato soprano and a favorite of the unhappy monarch, was summoned as a last resort. Being placed in an adjoining room to that in which Philip sat brooding in melancholic solitude, he sang several joyous melodies. No result was perceptible the first day. But the experiment was continued. New songs were sung, and the hours of the audience extended. The king began to show symptoms of reviving attention. He listened and gradually became absorbed in the exquisite solo concerts. His interests grew daily; he became discriminating, and, his attention being thoroughly aroused, his cure became rapid and permanent.

The third case was that of King George III, of England, who was also subjected to terrible fits of melancholia. The only solace received was from music. The king was well aware of the soothing effect on his nerves and mind, and would often ask for music when he sensed that one of his fits of melancholia was coming on.

It was toward the end of the 18th century that any serious efforts to evaluate the effects of music on the human body were initiated. Among the first was Dr. Brocklesby who conducted a series of interesting experiments on a "child not two years old, born of musical parents, who was one day remarkable for mirth and good humour upon hearing sprightly airs of musick; this gave occasion to the father and Mr. Stanley to try the effects of different measures, when they had raised the infant's spirits very high by these means. But as the chromatick and graver strains began, the child grew melancholy and sad, which temper was removed as soon as the pleasanter musick was played. Thus, as I am informed, they could, solely by this art, raise and allay joy and grief by turns in the infant's mind."

Thousands of practical applications of music therapy have been made during the past two centuries. Thus, the Guild of St. Cecilia, toward the end of the last century and the beginning of the present, organized curative concerts for asylums and hospitals with marvelous results. About the same time Dr. Bechinsky, a Russian physician of note, attended a three-year-old child who suffered from sleeplessness due to night terrors. He advised the child's mother to play one of Chopin's waltzes, and the effect is said to have been immediate and satisfactory.

In 1893, Dr. Ewing Hunter, of Helenburgh, N. B., found that soft music successfully reduced high temperatures in several cases of fever, the greatest reduction obtained being two degrees from 101 to 99. Dr. Wimmer had a few years previously de-

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scribed the results of experiments with music conducted at an insane asylum. The piano was played for half an hour to 1,400 insane women. It was found that all responded to rhythm; in some cases the pulse rate rose; others became restless and beat time. With slow music the worst cases were soothed and even sent to sleep. After several experiments it was noted that all showed improvement.

Dr. Hunter, in 1892, found that music was of great value for pain and insomnia in his hospital wards. After a trial of various instruments he considered the lyre and harp yielding the best results. In 1899, Dr. Herbert Dixon described how he tested the effects of music on his patients. He found that quick, lively music suited those with slow circulation and lowered vitality; whereas soft, soothing music aided night terrors and delirium.

Dr. Xavier Vernier, in 1903, proved that music was capable of dispelling fatigue and acting as a stimulus for more work. A greater amount of work was accomplished during the playing of certain types of music than others: allegro, maestro and militaire. Largo and ante movements were found to be accompanied by more production in work than the allegretto movement.

Among the more modern experimenters in music therapy have been Binet and Courtier who, in 1895, conducted a series of experiments on the capillary circulation in the hand. They established the fact that purely sensorial excitations produced a marked effect on the amplitude of pulsation. Dissonances produced a greater effect of the same nature, and sad music nearly always provoked a reduction.

It was found by Hyde and Scalpino, in 1918, in a more elaborate series of experiments that music exerted some rather remarkable effects on the heart. They conducted their experiments in the physiological laboratories of the University of Kansas. The pieces selected with Tschaikowski's Death Symphony, characterized by slow, tragic movements, The Toreador from Carmen, and The National Emblem, a stirring, lively march by Sousa.

The Death Symphony was found to increase the heart action, but it occasioned a fall in blood pressure. The Toreador from Carmen produced an increase in blood pressure, but a decreased heart action. The National Emblem caused a slower pulse rate somewhat similar to the Toreador. It seems that this kind of music has a stimulating effect upon the circulation by increasing the blood pressure and pulse rate while lessening heart current action.

Toward the end of the last century the Italian physiologist Patrici conducted a series of experiments on the influence of musical stimuli on the circulation of the blood in the brain. A boy named Favre, aged thirteen, while acting as an assistant to his employer, a woodcutter, was severely wounded in the head by a glancing blow of an axe. Through careful treatment in the hospitals he was finally restored to health, although the wound still remained more than three inches in length. When the wound was finally healed the bones did not fully cover the exposed brain, in consequence of which changes in the circulation of the brain could be detected accurately. The boy himself was docile and intelligent. The point that Patrici set out to ascertain was, first, whether the circulation of the blood in general is influenced by music; then, whether that of the brain is more or less influenced than that of the body.

After carefully executed series of experiments the following facts were ascertained:

1. It was found that under the influence of music the pulse in the arm was elevated in the same proportions as that of the brain.

2. It was found that under the influence of certain melodies while the brain circulation expanded, that of the arm contracted.

3. The circulatory effects of music are directly related, not subordinate to the movements of breathing.

Music exerts equally profound effects on the other systems of the body. Binet and Courtier, who were among the pioneer investigators in this important field, noted the influence of musical stimuli on respiration. The reactions of a single subject were studied. In one series of experiments, isolated tones, chords and musical exercises, possessing no emotional associations, were used. These sensorial stimuli produced no respiratory modifications except an acceleration of from .5 to 3.5 additional respirations per minute. The acceleration varied directly with the increase of the movements, and was greater for the minor mode and discordant sounds.

Musical selections, chiefly songs, arousing emotional associations, according to the introspection of the subjects, varied in their influence, according to the tone evoked. Sad melodies accelerated respiration by 2.6 on the average, considerably diminished

the amplitude and produced irregularities in both acceleration and amplitude of respiration. Gay music, such as military marches, produced an acceleration of 3.8 and showed less tendency to reduce amplitude.

The evaluation of musical stimuli upon muscular activity was undertaken several years ago by professor Seashore who has done considerable work along this line. He found that the greatest pressure which could be exerted by the thumb and finger grip during silence was 4 kg. When the Giant's Motive from Rheingold was played the grip was increased to 4.5 kg. Music also tends to reduce fatigue and consequently increase muscular endurance.

In 1887, Lombard observed the reinforcement of knee jerks caused by music, while making a study of musical influence on the nervous system. He found that the knee jerk varied distinctly with the intensity of the music.

From the evidence before us it can be stated that music has a well-defined influence on all the systems of the human body, and in this fashion exerts a profound effect on human health. Good music means good health. Dr. Ingegnieros several years ago, after devoting many years to the study of music and health, declared that: 1. Musical stimuli, like all sensorial excitations, determine an increase of the general physiological activities of the body. 2. Musical stimuli in certain well-known conditions determine the transient functional reactions in the organism that characterize an emotion. 3. Physiologically, functional reactions that are specific of musical emotion do not exist. It is a matter of reactions common to the emotions in general, determined by music in certain conditions.

In conclusion, it might be stated that music exerts its influence on the body in the following ways:

1. Music increases metabolism.
2. It may increase or decrease muscular energy according to the type of music played.
3. It accelerates respiration and decreases its regularity.
4. It produces marked but variable effect on volume, pulse and blood pressure.
5. It lowers the threshold for sensory stimuli of different modes.

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ANAPHYLAXIS FOLLOWING ADMINISTRATION OF PITUITRIN.

H. G. BYRD, M. D.,
Louisa, Va.

Protein shock or anaphylaxis due to the administration of pituitrin is extremely rare. After a careful perusal of the literature the only records I could find approaching this one were a case report by (a) James Hasson and one by (b) P. W. Wang and J. Preston Maxwell. For this reason I would like to record the following case.

Mrs. C. O. C., age 31, gravida 6, para 5, was admitted to the Roanoke General Hospital on December 19, 1933, in active labor. She was about seven months pregnant, the membranes having broken twenty-four hours previous to admission, with subsequent onset of labor pains. There were no signs of toxemia; B. P. 128/90; urine and blood were normal.

Labor progressed rapidly and a premature male infant (4½ lbs.) was delivered spontaneously at 11:30 P. M. The placenta followed at 11:45 P. M. with the loss of about 75 c.c. blood; ½ c.c. pituitrin was given intramuscularly right after the delivery of the after-birth and the patient was removed to the ward. About ten minutes later she became nauseated and vomited and began to complain of dyspnea, weakness, and generalized itching. She presented a typical picture of severe shock, the skin was cold and clammy, face and tongue swollen, radial pulse very rapid and almost imperceptible, with characteristic air hunger; the B. P. was sixty systolic. There soon followed a generalized urticarial rash with increase in the edema of the face particularly around the eyes. Seven minims of 1-1000 adrenal solution was administered intramuscularly and external heat applied.

In an hour the B. P. and 88/60, pulse 120, and

the patient was fairly comfortable. Twenty-hour hours later pulse and B. P. had returned to normal.

In view of the symptoms coming on shortly after administration of the pituitrin, it was thought to be the possible cause, and on December 21, 1933, one minim of a 1-10 dilution of obstetric pituitrin was injected intradermally. In a short time a large wheal appeared at the site of injection accompanied by intense local itching. Six weeks later at the suggestion of Dr. M. P. Rucker a second intradermal injection of a 1-1000 (one minim) dilution of obstetric pituitrin was made with the same results, although not so marked.

Discussion.—There is little doubt that this was a case of pituitrin anaphylaxis or protein shock. James Hasson obtained a somewhat similar reaction after the sixth injection of whole pituitary extract in treating a case of lupus erythematosis. The case reported by P. W. Wang and J. Preston Maxwell was almost identical in that it occurred in an obstetric patient, producing similar symptoms. The concensus of opinion seems to be that the reactions were produced by small amounts of protein in the pituitrin solution, possibly histamine.

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CARDIAC NOMENCLATURE:
Unsatisfactory Terms.

W. A. PLECKER, M. D.,
State Bureau of Vital Statistics
Richmond, Va.

During the twenty-three years existence of the Virginia Bureau of Vital Statistics a number of new terms for reporting the causes of death have come into use. The use of some of these is doubtless due to greater accuracy in diagnosis; at other times it would seem fashion plays its part.

In no class of disease has the change been so marked as in the report of cardiac affections. Some of these changes, if accurately stated, are good; namely, in the report of diseases involving the coronary arteries, such as embolism, thrombosis, and arteriosclerosis of these arteries.

Another set of terms which I desire briefly to discuss are those which are purely physiological or symptomatic, the end results of various structural changes which should in all cases be given as the true cause of death. During the last two or three years the prominence given to terms describing purely symptomatic conditions, or the end results of structural changes or infectious diseases of the heart or aorta, has become so widespread that it is really placing a great and unecessary burden upon the Bureau in the writing of letters for more definite information. In the replies to letters being handled at the time of this writing, twenty-five related to such indefinite terms. Thirteen of these gave "congestive heart failure" as the cause of death. The answers to our inquiries show that three of these were corrected to myocarditis, two to arteriosclerotic heart disease, and one each to sclerotic changes of valves, endocarditis, myocardial difficulties, previous shortness of breath, death from forcible attempt to control an imbecile, myocardial fibrosis (senile), chronic myocarditis and myocardial degeneration, and pancarditis (both endo and myo). Of the six which were first given as "acute dilatation of the heart," two were changed to chronic myocarditis, two to cause unknown, and one each to acute myocarditis and "sick ten minutes (seen post-mortem)." Four, first given as "heart failure," were changed, one each to heart disease, arteriosclerosis, myocarditis, and old age and general debility. One "cardiac insufficiency" was changed to endocarditis with mitral regurgitation and cardiac fibrillation.

Several physicians have referred me to "Criteria for the Classification & Diagnosis of Heart Disease," New York Tuberculosis and Health Association (1932), for their authority in the use of the terms, "congestive heart failure" and its synonym, "cardiac insufficiency," referred to in the index as appear-

ing on eighteen different pages. Reference to these passages show cardiac insufficiency as a symptom of the following primary diseases, listed in order of appearance: anemia, arteriosclerosis, bacterial infection (eight varieties), pulmonary emphysema, heart disease due to pulmonary emphysema, rheumatic heart disease, exophthalmic goitre, edema of the lungs and dilatation of the heart (both unsatisfactory terms), fibrosis of the myocardium, acute myocarditis, thrombosis within heart, hydropericardium, anginal syndrome, mitral incompetency, mitral stenosis, pulmonic incompetency, and tricuspid incompetency.

This formidable though partial list of causes of cardiac insufficiency (congestive heart failure), together with the still greater number of actual forms of organic heart disease, or other conditions, for which the terms are admittedly used by Virginia physicians, is ample reason why they have absolutely no place in statistical classification. Unless additional information can be secured by laborious and expensive correspondence, deaths diagnosed under the indefinite or "physiological" terms listed in the above mentioned book are necessarily classified under the title "ill-defined causes."

I am, therefore, as State Registrar of Vital Statistics for Virginia earnestly imploring the members of the medical profession to desist from the use of such indefinite terms as congestive heart failure, cardiac insufficiency, heart failure, and dilatation of the heart in assigning the cause of death on certificates. Give the anatomical diagnosis, or the nature of the bacterial infection when known. Mention rheumatic fever or syphilis when diagnosed as the cause of the heart change.

Correspondence

The Treatment of the Stump of the Appendix.

TO THE EDITOR:

There was formerly much discussion about the best method of treating the stump of the appendix. While my old chief, Dr. John A. Wyeth, merely tied the stump of the appendix with silk and cauterized it with carbolic, after leaving him I found that so many surgeons were burying the stump I adopted this procedure. After doing this for a few years, I became convinced that the technic of burying the stump was unnecessarily complicated and was really more dangerous than the simple treatment of the stump; so about twenty-five years ago I went back to the original procedure of merely ligating the stump and treating it with carbolic acid. Lately, I have often drawn a small amount of peritoneal covered fat over the stump with the end of the ligature around the base of the appendix, but at no time for twenty-five years have I attempted to invert the stump with any purse-string suture or any suture in the cecum itself.

While this simpler technic has been unpopular, it seems to be gaining in favor. Until recently the practice at the Mayo Clinic was to bury the stump of the appendix. The following is a quotation from Dr. Charles W. Mayo, of Rochester, which appears on page 103 of the February number of *Southern Medicine and Surgery*. In view of the great number of appendices that are removed at the Mayo Clinic and the careful observation of the pathologists who have charge of the postmortem examinations, this statement should attract much attention:

"There are four reasons why I (Chas. W. Mayo, Rochester, in Sou. Wes. Med., Dec.), do not invert the carbolized stump of the appendix: (1) Dr. Robertson of the Section on Pathologic Anatomy at the Clinic, has found that invariably, in cases in which appendectomy with inversion of the stump has been done in combination with some other surgical procedure and death has resulted, there is a pus pocket in the inverted stump up to twenty-one days postoperatively; (2) the cultured suture material used to invert the stump, once having run through the intestinal wall, invariably is infected with pathogenic bacteria; (3) noninversion shortens the surgical procedure, and (4) I have not had occasion to regret not having inverted the stump."

J. SHELTON HORSLEY.

February 13, 1935.
Richmond, Va.

Statement from Loudoun County Medical Society.

The following letters are published upon request of the Secretary of the Loudoun County Medical Society:

CHICAGO, ILL.,
AUGUST 20, 1934.

TO DR. W. O. BAILEY, *Secretary*,
LOUDOUN COUNTY MEDICAL SOCIETY:

A statement is being circulated to the effect that 25 per cent of the people who need medical care are either not receiving it, or are unable to obtain such services.

We are endeavoring to ascertain whether such a condition exists in your county.

It will be very helpful in this study if you will send us your estimate of the percentage of persons who need medical care, but who are either not receiving it or are unable to secure such attention. We shall be glad to have, also, your statement of the reasons for this failure to receive it, or inability to obtain medical services, if such a condition exists in your community.

It is very important that we secure, as soon as possible, reliable information on this subject. Your considered contribution to this study, therefore, will be not only very helpful, but it will be as greatly appreciated as your previous prompt assistance on other matters pertaining to medical economics.

R. G. LELAND, M. D., *Director,*
Bureau of Medical Economics, A. M. A.

LEESBURG, VA.,
SEPTEMBER 26, 1934.

MY DEAR DR. LELAND:

In reply to your letter of August 20, 1934, I have been instructed by the Loudoun County Medical Society to inform you that the percentage of people not receiving adequate medical care in this county is exceedingly small. Our activities all emanate from a county hospital of thirty beds. This hospital is modernly equipped and endowed. It is quite likely when two estates now pending settlement are settled, that the total endowment will be quite substantial. Its staff is composed of a general surgeon, an eye, ear, nose and throat specialist, several men who are expert in obstetrics, besides competent general practitioners. In addition to this the hospital possesses a consulting staff composed of some of the best talent in Washington, D. C. All physicians connected with the hospital give freely and willingly of their time and skill. In the instances where adequate medical care is not given it is usually on account of the disinclination of the individual to accept it. Besides the physicians and the hospital, we have a town nurse in Leesburg and a nurse for Loudoun County.

Our system is to have our county nurse ferret out those who require attention and who are, for one reason or another, not receiving it. We feel sure that she does her work effectively. Either the physicians take care of the indigent case for nothing or else the Board of County Supervisors agree to compensate the physician from a limited fund which the board possesses. The board is conscientious, intelligent and liberal. This society does not think that any criticism can justly be leveled at the component part of our system of practice.

This society believes in the county plan of practice. It thinks that the minority report of the committee on the costs of medical care should be carried out. What this society lacks is leadership not only here but in the state society. If the American Medical Association can develop a strong leadership which will be more cohesive and intimate, and in which this society can have confidence, medicine would have no more ardent, loyal and cooperative adherents.

There is much hostility to the leadership of the Medical Society of Virginia. This hostility takes the form of studied indifference rather than acts of overt aggression. It exists largely because the rural and small town practitioner is ignored and patronized by the man in the city. While the physicians in towns of twenty-five hundred and less, and in rural communities, in Virginia, almost equal the urban membership, the dynastic oligarchy in Richmond which runs the State Medical Society refuses equal representation to men from these communities. This is further reflected in the appointments of delegates to the American Medical Association. If you will examine the names of the men representing the state societies in the American Medical Association, you will be amazed to realize that the rural physician has practically no representation. Urban men usually represent the Medical Society of Virginia. They know very little of rural conditions.

The society believes that the men who run the Medical Society of Virginia are very able. It takes a pardonable pride in their scientific achievements. The misfortune is that they are not informed regarding rural conditions and problems and apparently haven't the time or the inclination to obtain this information.

This society writes at this length because it believes this to be a fundamental question in the solution of our medical dilemmas. There must be many of the three thousand counties in the United States whose medical societies feel exactly as this one does. This society does not feel either an integral part of the Medical Society of Virginia or of the American Medical Association. It feels that it is being unjustly taxed by both the American Medical Association and the Medical Society of Virginia in contravention of an old principle which it thought settled at "The Boston Tea Party," over one hundred and fifty years ago. It is axiomatic that no man plays a game well from the side lines.

This society does not believe that any plan of practice will be successful without loyalty and confidence, no matter how efficient the leadership. It does not believe that the Medical Society of Virginia will ever have loyal adherents here, and indirectly the American Medical Association, as long as it is run, as it is now, by selfish men who, through geographical contiguity, have usurped powers which do not rightfully belong to them and who seek only their own personal aggrandizement and self-glorification; men who have no definite plans or objectives, embodying the interests of both urban and rural physicians equally and unequivocally.

Sincerely yours,

WM. O. BAILEY, *Secretary,*
Loudoun County Medical Society.

A Correction.

TO THE EDITOR:

In the January number of the VIRGINIA MEDICAL MONTHLY, pp. 611-612, appeared a review of Henry

J. John's "Diabetic Manual for Patient," erroneously ascribed to me. This review was written by Dr. Harry Walker; the mistake no doubt arose from the similarity in our names.

HARRY WARTHEN.

Richmond, Va.,
January 9, 1935.

Miscellaneous

Resolution Adopted by the House of Delegates of the A. M. A. Concerning Sickness Insurance and Organized Medical Care.

In compliance with the official request of the Board of Trustees of the American Medical Association, there was a Special Session of its last House of Delegates in Chicago on February 15th and 16th. The business of this session was limited to a consideration of the social and economic policies of the Association as related to pending and proposed legislation, and to sickness insurance. The first day was devoted to a very general discussion and the first night to drafting the resolution. The morning of the second day was taken up with a discussion of the resolution, after which it was re-drafted by the Committee. It was discussed again at the afternoon session and adopted. Virginia was represented at this meeting by Dr. Warren F. Draper and Dr. J. C. Flippin, delegates, and Dr. P. St. L. Moncure, alternate. Members of the Resolutions Committee were: Chairman, Dr. Wilson, of California, and Drs. N. B. Van Etten, of New York; F. S. Crockett, of Indiana; E. F. Cody, of Massachusetts, W. F. Braasch, of Minnesota; E. H. Cary, of Texas, and W. F. Draper, of Virginia.

The following resolution was adopted unanimously by the House of Delegates at this session:

The House of Delegates, believing that regimentation of the medical profession and lay control of medical practice will be fatal to medical progress and inevitably lower the quality of medical service now available to the American people, condemns unreservedly all propaganda, legislation or political manipulation leading to these ends.

The House of Delegates has given careful consideration to the record by the Board of Trustees of the previous actions of this House of Delegates concerning sickness insurance and organized medical care and to the account of the measures taken by the Board of Trustees and the officials of the Association to present this point of view to the government and to the people.

The American Medical Association, embracing in its membership some 100,000 of the physicians of the United States, is by far the largest medical organization in this country. The House of Delegates would point out that the American Medical Association is the only medical organization open to all reputable physicians and established on truly democratic principles, and that this House of Delegates, as constituted, is the only body truly representative of the medical profession.

The House of Delegates commends the Board of Trustees and the officers of the Association for their efforts in presenting correctly, maintaining and promoting the policies and principles heretofore established by this body.

The primary considerations of the physicians constituting the American Medical Association are the welfare of the people, the preservation of their health and their care in sickness, the advancement of medical science, the improvement of medical care, and the provision of adequate medical service to all the people. These physicians are the only body in the United States qualified by experience and training to guide and suitably control plans for the provision of medical care. The fact that the quality of medical service to the people of the United States today is better than that of any other country in the world is evidence of the extent to which the American medical profession has fulfilled its obligations.

The House of Delegates of the American Medical Association reaffirms its opposition to all forms of compulsory sickness insurance, whether administered by the Federal government, the governments of the individual states or by any individual industry, community or similar body. It reaffirms, also, its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness.

The medical profession has given of its utmost to the American people, not only in this but in every previous emergency. It has never required compulsion but has always volunteered its service in anticipation of their need.

The Committee on Economic Security, appointed by the President of the United States, presented in a preliminary report to Congress on January 17th, eleven principles which that committee considered fundamental to a proposed plan of compulsory health insurance. The House of Delegates is glad to recognize that some of the fundamental considerations for an adequate, reliable and safe medical service, established by the medical profession

through years of experience in medical practice, are found by the committee to be essential to its own plans.

However, so many inconsistencies and incompatibilities are apparent in the report of the President's Committee on Economic Security thus far presented that many more facts and details are necessary for a proper consideration.

The House of Delegates recognizes the necessity under conditions of emergency for federal aid in meeting basic needs of the indigent; it deprecates, however, any provision whereby federal subsidies for medical services are administered and controlled by a lay bureau. While the desirability of adequate medical service for crippled children and for the preservation of child and maternal health is beyond question, the House of Delegates deplores and protests those sections of the Wagner Bill which place in the Children's Bureau of the Department of Labor the responsibility for the administration of funds for these purposes.

The House of Delegates condemns as pernicious that section of the Wagner Bill which creates a social insurance board without specification of the character of its personnel to administer functions essentially medical in character and demanding technical knowledge not available to those without medical training.

The so-called Epstein Bill, proposed by the American Association for Social Security, now being promoted with propaganda in the individual states, is a vicious deceptive, dangerous and demoralizing measure. An analysis of this proposed law has been published by the American Medical Association. It introduces such hazardous principles as multiple taxation, inordinate costs, extravagant administration and an inevitable trend toward social and financial bankruptcy.

The House of Delegates has studied this matter from a broad standpoint, considering many plans submitted by the Bureau of Medical Economics as well as those conveyed in resolutions from the floor of the House of Delegates. It reiterates the fact that there is no model plan which is a cure-all for the social ills any more than there is a panacea for the physical ills that affect mankind. There are now more than 150 plans for medical service undergoing study and trial in various communities in the United States. Your Bureau of Medical Economics has studied these plans and is now ready and willing to advise medical societies in the creation and operation of such plans. The plans developed by the Bureau of Medical Economics will serve the people of the community in the prevention of disease, the maintenance of health and with curative care in illness. They must at the same time meet apparent economic factors and protect the public welfare by safeguarding to the medical profession the functions of control of medical standards and the continued advancement of medical educational requirements. They must not destroy that initiative which is vital to the highest type of medical service.

In the establishment of all such plans, county medical societies must be guided by the ten fundamental principles adopted by this House of Delegates at the annual session in June, 1934. The House of Delegates would again emphasize particularly the necessity for separate provision for hospital facilities and the physician's services. Payment for medical service, either by prepayment plans, installment purchase or so-called voluntary hospital insurance plans, must hold, as absolutely distinct, remuneration for hospital care on the one hand and the individual, personal, scientific ministrations of the physician on the other.

The House of Delegates suggests that the Board of Trustees request the Bureau of Medical Economics to study further the plans now existing and such as may develop, with special reference to the way in which they meet the needs of their communities, to the costs of operation, to the quality of service rendered, the effects of such service on the medical profession, the applicability to rural, village, urban and industrial population, and to develop for presentation at the meeting of the American Medical Association in June, model skeleton plans adapted to the needs of populations of various types.

Public Health Statistics

I. C. RIGGIN, M. D.
Health Commissioner of Virginia

The communicable disease report received at the office of Dr. G. F. McGinnes, State Epidemiologist, during January, 1935, showed the following cases compared with the same month in 1934:

	1935	*1934*
Typhoid and Paratyphoid Fever	22	35
Diphtheria	115	173
Scarlet Fever	274	422
Measles	1,848	1,856
Meningitis	17	12
Poliomyelitis	1	3
Rocky Mountain Spotted Fever	1	0
Typhus Fever	1	0
Undulant Fever	1	4
Tularaemia	8	11
Smallpox	5	1

CEREBROSPINAL MENINGITIS

The outbreak of Cerebrospinal Meningitis occurring at the beginning of the new year is of interest, not because the total number of cases is higher than in former years, for the elevation in the rate is hardly noticeable, but rather that this year, the disease manifested itself by an extremely virulent type with an exceedingly high mortality in four small epidemics.

The history of the disease is worthy of notice. In 1805 Vieusseux of Geneva recognized the dis-

case "sui generis" and formally reported the Geneva epidemic, naming the disease "Cerebrospinal Meningitis." In the next year (1806) in Medfield, Mass., Danielson and Mann reported an epidemic of Spotted Fever, characterized by sudden onset, marked prostration, excruciating headache, muscle rigidity, slight hypersthenia, spasticity of the neck, and opisthotonos, with an exceedingly high death rate. They had been familiar with the so-called disease "Spotted Fever" which had been known for centuries and often confused with Typhoid and Typhus Fever, but as the predominating symptoms pertained chiefly to the Central Nervous System they obtained permission to perform five postmortem examinations. They found the meninges of the brain and cord involved in various suppurative processes. Fortunately, they deemed their work worthy of a thorough report. Danielson and Mann were not aware of the work done by Vieusseux in Geneva. After these publications the medical world began to consider Cerebrospinal Meningitis as a clinical entity, and later day Epidemiologists, in studying the various reports written on the vague entity "Spotted Fever," have undoubtedly identified it as Meningococcic Meningitis.

Vaughan aptly terms the disease "A feebly, infectious, highly fatal disease, due to diplococcus intracellularis meningitidis." This dangerous organism, a gram negative intracellular diplococcus, was first noticed by Klebs in 1875 in the spinal fluid of cases dying of the disease. Gaucher studied the causative agent of this disease in 1881, and in 1833 Ughetti, and still later Marchiafava and Celli worked with this organism. However, it was not until 1887 that Weichselbaum published a paper "The Etiology of Acute Cerebrospinal Meningitis." To him is generally given the credit for the discovery of the causative organism of this disease. Later Flexner in America and Jochmann in Germany prepared Antimeningococcic Serum. Dopter, of France, found several of the many strains of this organism, and Gordon and Murray, of England, typed the organism into four chief types and prepared serum from each.

The organism of the disease is present in the flora of the nasopharynx of many individuals, but how so many can harbor the organism and so few actively contract the disease is, as yet, unsolved. The disease, spread by carriers, is spray-borne. It has been demonstrated that the number of carriers increases with the number of cases in the community, and particularly where there is crowding.

Epidemic Meningitis occurs sporadically throughout the year. In its epidemic form it is a winter disease. It is not confined to any locality, occurring in all sections of the world, breaks out in communities with excellent sanitation as well as in the unsanitary places. It is no respecter of persons, attacking the rich and poor, the vigorous and the weak, male and female, and all age groups. However, it has a predilection for children and young adults. In its epidemic form it has been found that the danger of contracting the disease increases where there are a number of people confined in small, cramped quarters. Thus, barracks, dormitories, prisons, places where more than three are sleeping in the same room, are particularly dangerous. This fact was first noticed in the War of 1812, when the death rate in cantonments was appalling. It was again emphasized in the Civil War and Spanish-American War. Thus, at the beginning of the World War the Medical Corps of the Army took the most painstaking care to check its spread. Yet, with the exception of pneumonias, no other disease created such a problem for Army Medical Corps in 1917-1918 as did this one. Since it is spray-borne and the organisms carried in the nasopharynx, the cramped sleeping quarters and crowded conditions of the barracks provide an ideal environment for its spread.

It is interesting to notice that the small epidemics in Virginia occurred under just these conditions. One was in a transient camp and another in a small city where eleven people in one family lived in four small rooms. Here, there were three cases, two of which were fatal. On the other hand, in one of the counties early in January, three families each had a single case and in all of these living conditions were above the average. While in the fourth family, where the sanitation was poor and nine people were living in two rooms, there were two cases, one of which was fatal.

In this virulent form which we have seen, with tendencies to epidemics, it is most important that the diagnosis be made early and the treatment instituted immediately. Lumbar puncture not only aids in the diagnosis, but has therapeutic value in lessening the tension. The prompt use of Anti-

meningococci Serum, given both intravenously and intraspinally, appreciably lowers the mortality. The isolation of the patient and the quarantine of the contacts protects the remainder of the community from the disease and aids in checking its spread.

Woman's Auxiliary to the Medical Society of Va.

President—MRS. JOSEPH BEAR, 3012 Monument Ave., Richmond.
President-Elect—MRS. FLETCHER J. WRIGHT, Petersburg.
Recording Secretary—MRS. JAMES B. STONE, 2042 Park Ave., Richmond.
Corresponding Secretary—MRS. AMBROSE MCGEE, 4107 Kensington Ave., Richmond.
Treasurer—MRS. REUBEN F. SIMMS, 2034 Park Ave., Richmond.

Petersburg Hospital Gets Many Supplies Through Postgraduate Medical Auxiliary.

About fifty people attended the tea and shower that was held at the Nurses Home, Petersburg, Va., on January 29th. A large supply of hospital linens and other supplies were donated at this time and a most enjoyable afternoon was spent.

Gifts included in the shower were: 85 tavern sheets, 116 pillow cases, 1 spread, 70 turkish towels, 118 huck towels, 50 yards of unbleached cotton, 50 yards of toweling, 16 felt pads for mattresses, 2 all wool wheel chair blankets, 14 all wool bed blankets, 14 new pillow ticks, and 2 dozen wash cloths. The Medical Auxiliary had already contributed 31 glass trays, 15 glass pitcher trays, 5 dozen casters for beds, 2 dozen metal wastebaskets and 1 dozen fruit bowls. The value of the gifts was estimated to be approximately $300.50.

The regular meeting of the Auxiliary followed and plans for the luncheon and February meeting at the Country Club were discussed.

Auxiliary to the Richmond Academy of Medicine.

At the February session of the Auxiliary to the Richmond Academy, the newly elected officers were installed with an impressive ceremony conducted by the parliamentarian, Mrs. Lee E. Sutton. (Mrs. M. N. King, of Norfolk—we profited by your example and yearn to attain to the perfection of your installation service in Alexandria in October.)

Mrs. Andrew Shetter, the new president occupied the chair after being installed. Mrs. Shetter proved her devotion to the cause by presenting evidence of much thought and hard work in a well organized plan for the year. She had already secured splendid chairmen for her many committees. We are looking forward to a revival of interest under Mrs. Shetter's fine leadership. She sends cordial greetings through this page to those who were absent at her first meeting and bespeaks their loyal and sympathetic support for her administration.

A number of new faces appeared at this meeting and several others whom we had "loved long since" and *thought* we had lost came home again. Welcome, new members, and thrice welcome to the returning prodigals. You have made our hearts glad.

The speaker on this occasion was our own Mrs. Joseph Bear, president of the State Auxiliary. She spoke of her hopes and fears, her aims and ambitions for the Richmond Auxiliary. She held up to us our old rival, Norfolk, who always surpasses us in achievement, urging us to greater effort that we may by some lucky strategy outdistance them one time. The reminds us, what is the matter with Norfolk? We think they are strangely quiescent which scents of danger. Even now they may be planning something to spring upon us. We wish they would give us some inkling of what is in their minds. Speak up, Norfolk, will you take a dare?

Cooperation Needed.

The National Chairman of Press and Publicity has recently written in the National *Newsletter* urging regular reports from state chairmen of publicity. She puts it in this charming way: "If this *Newsletter* pleases you, we are happy; if it bores you or strikes you as inadequate, we are in the dust but lift our lowly head enough to whisper that we depend entirely on the news sent in by the state chairmen of press and publicity."

Even so, your state chairman depends upon the news sent in by local chapters, both for this page and for reports to the National. What can she do when these reports fail to come? And none have come for many months. A resident of Richmond, she is able to gather the news of Auxiliary activities in Richmond. We do not want all of the space for Richmond. We want news of Norfolk, Petersburg, Alexandria, Lynchburg, Warwick County, James City and New Kent, Elizabeth City, and

Mid-Tidewater. This is our roll call! Who will answer first?

Death of Texas State President.

Word was received the middle of February of the sudden passing of Mrs. Preston Hunt, President of the Woman's Auxiliary of the State Medical Association of Texas, at her home in Texarkana, Texas. Our State Auxiliary extends its heartfelt condolences to her family.

Truth About Medicine

In addition to the articles previously enumerated, the following have been accepted by the Council of Pharmacy and Chemistry of the American Medical Association:

Bilhuber-Knoll Corporation
  Dilaudid Compound Tablets, ½ grain
Hoffmann-La Roche, Inc.
  Alurate
    Alurate Tablets, 1 grain
    Elixir Alurate
  Sodium Alurate
    Capsules Sodium Alurate, 3½ grains
Jensen-Salsbery Laboratories, Inc.
  Diphtheria Toxoid, Alum Precipitated (Refined)
Merck & Co., Inc.
  Cebione—Merck
    Ampules Cebione—Merck, 0.1 Gm.
    Tablets Cebione—Merck, 0.01 Gm.
Wm. S. Merrell Co.
  Diothane Ointment 1% Ophthalmic Tube
Frederick Stearns & Co.
  Neo-Synephrin Hydrochloride Jelly
Winthrop Chemical Co., Inc.
  Ampules 1% Isotonic Solution Tutocain with Suprarenin, 1:20,000, 3 c.c.
  Tablets Alypin ⅓ grain
Non-proprietary Articles
  Cevitamic Acid
  Aminoacetic Acid

The following product has been accepted for inclusion in the List of Articles and Brands Accepted by the Council but not described in N. N. R. (New and Non-official Remedies, 1934, p. 443):

Merck & Co., Inc.
  Creosote—Merck.

PROPAGANDA FOR REFORM

Requirements for Advertising of Abdominal Belts, Corsets and Special Supports.—The Council on Physical Therapy has adopted the following minimum standards for acceptance and policy pertaining to the selling and advertising of abdominal belts, corsets and special supports recommended for therapeutic use: I. Misleading claims concerning the structure, material, workmanship, etc., will warrant rejection of the product. II. Acceptance or rejection will be based in a large measure on the advertising claims of the manufacturer and on the therapeutic evidence presented. In advertising either to the public or to the profession, the following therapeutic claims are acceptable to the Council: A. Such products form a satisfactory method of support in certain individuals with large pendulous abdomens. B. Similar supports may be used in the case of large pendulum breasts. III. In advertising solely to the profession, manufacturers may use the additional therapeutic claims as follows: A. In pregnant women, where abdominal or pelvic support is needed. B. In cases of hernia. C. In certain definite displacements of abdominal viscera. D. In selected cases of weakness of abdominal walls, due to infantile or other forms of paralysis. E. In selected cases of defective posture in connection with corrective exercises or other treatment. F. In selected cases of low back pain. G. In selected cases of circulatory disturbances of the extremities. H. In occasional cases after laparotomy. I. In occasional cases of injury to the extremities. IV. The Council will reject any devices sold by manufacturers who persist in the practice of rebating physicians who desire it, a certain percentage of the selling price of these devices. (Jour. A. M. A., December 22, 1934, p. 1946.)

Book Announcements

Observations of a General Practitioner. By WILLIAM N. MACARTNEY, M. D. Boston. Richard G. Badger, Publishers. The Gorham Press. Octavo of 478 pages. Cloth.

This volume is an attempt by a general practitioner to place on record his own personal views concerning the practice of medicine in a small town and rural section. The book covers a great range of philosophy together with a more or less haphazard account of the author's views about the nature of disease, the treatment of patients afflicted with various maladies, and his personal methods for doing different operative procedures. The diseases discussed by the author are those commonly found in general practice, and he gives his personal experiences with the use of methods and drugs which he enthusiastically recommends in the treatment of these diseases.

The book has ninety chapters. With such a large number of chapters in a book having 467 pages, it would be unusual to find any detailed information; rather, general statements make up the sum of most of the discussions. No attempt will be made to review this book in detail because it is hardly the type which lends itself to such a review. Throughout the book one finds statements which are entirely

unjustified and in many instances dangerous if taken seriously. However, in many of the chapters there are practical suggestions both philosophical and scientific which are usful in the general practice of medicine.

The reviewer feels that there is a real need for a book of the type which this volume attempts to cover, nevertheless, he feels that it is probably unwise to attempt to write a humorous novel and mix this with scientific and practical observations. Everyone appreciates the fact that there is much useful information in the hands of the so-called general practitioner, but rarely does he find time or energy to put this data in writing. The author has attempted to do this but, unfortunately, he is prejudiced from the beginning. He criticises the specialist and all others who have information of a specialized character, and yet proceeds to give advice in fields which long since have been recognized as the domain of specially trained men.

I doubt if the book can justify itself as a medical essay but it is a rather refreshing and amusing volume for the author has selected for illustration and trite criticism many amusing stories. Anyone who is interested in an evening of amusement and at the same time wishes to find practical and useful suggestions should read this book, but not too seriously. Personally, I would like to see the author write another volume and include in it the practical suggestions which he makes throughout the book in the routine care of sick people, and omit for a separate volume the stories and unrelated sarcasm.

The book is dedicated to "those humble members of our beloved profession who are not already hopeless victims of Chronic Elephantiasis of the Ego." One is convinced after reading the book that the author did not dedicate it to himself.

WM. B. P.

The Heart Visible. A Clinical Study in Cardiovascular Roentgenology in Health and Disease. By J. POLEVSKI, M. D., Attending Physician and Cardiologist, Newark Beth Israel Hospital. Philadelphia. F. A. Davis Company. 1934. Octavo of 207-xvii pages. Illustrated. Cloth. Price, $5.00.

The author, in emphasizing the enormous value of fluoroscopy of the heart and great vessels, in all positions, proves at the very onset that he is well informed. The work is not only a study of cardiovascular roentgenology, but a successful attempt to explain clinical cardiologic findings in roentgenologic terms.

From a purely X-ray standpoint, it is rather unfortunate that the term "anteroposterior position" is employed throughout the book, in spite of the fact that the author explains on page 41 that such usage "implies the posterior-anterior position generally used by roentgenologists." In the same manner, the term "oblique" is often rather loosely used. It would be more satisfying to the roentgenologist if he were told whether the "right" or "left" oblique were referred to, in several instances.

It is most refreshing to find a book covering the subject so thoroughly without including too many of the proposed, and often too theoretical, minute methods of heart measurement, of such questionable value to the practical cardiologist, in his routine work.

Part I, on general considerations, could well be followed in present-day radiologic texts, as it is founded on fundamental X-ray facts, too often disregarded in considering the chest as a whole.

The most experienced roentgenologists can profit by reading the chapters on the pericardium and great vessels. Only too often they neglect the former, and attempt to go beyond their sphere of usefulness in attaching an etiologic diagnosis, in the latter.

F. B. M.

Manual of Clinical Laboratory Methods. By PAULINE S. DIMMITT, Ph. G., Medical Technologist for the Stout Clinic, Sherman, Texas, etc. Philadelphia. F. A. Davis Company. 1934. Octavo of 156-ix pages. Illustrated with 36 engravings, including 7 full page colored plates. Cloth. Price, $2.00.

In this book there are given the usual procedures for the laboratory examinations of urine, blood, sputum, gastric contents, blood chemistry and so on. In addition, there are described tests which have recently come into prominence, such as the Aschheim-Zondek test for pregnancy. The text is accompanied by numerous illustrations, most of which are reprinted from other authors.

As a manual of methods, the book is concise and accurate. As such, it will appeal to laboratory technicians who are more interested in the "how" than the "why" of laboratory examinations. Medical students and practitioners will undoubtedly prefer one of the standard works which gives an interpretation of results as well as the technique of examinations.

J. P. BAKER, JR.

XUM

Virginia Medical Monthly

Founded by LANDON B. EDWARDS, M. D., April, 1874
Owned by MEDICAL SOCIETY OF VIRGINIA since November, 1919
WYNDHAM B. BLANTON, M. D., *Editor*
AGNES V. EDWARDS, Richmond, *Business Manager*

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This journal is not responsible for the opinions and statements of its contributors.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

Subscription Price: $2.00 per annum in advance. Single Copies 25c.

VOLUME 61 — MARCH, 1935 — No. 12

Editorial

Medical Economics.

On January 15, 1935, the Committee on Economic Security made a report to the President. The following part of the report which deals with ill health, the Public Health Services and Health Insurance will prove of interest to physicians.

RISKS ARISING OUT OF ILL HEALTH

Illness is one of the major causes of economic insecurity which threaten people of small means in good times as in bad. In normal times from one-third to one-half of all dependency can be traced to the economic effects of illness. The money loss caused by sickness in families with less than $2,500 of income per year has been estimated at a total of $2,400,000,000 per annum, of which $900,000,000 represents wage loss and $1,500,000,000 the expenses of medical care.

The seriousness of this hazard, however, lies less in the total loss involved than in its unequal distribution. Nearly half of all people suffer no illness during a normal year but 7 per cent have three or more illnesses and nearly 15 per cent have illnesses that disable them for more than a week. Studies of the actual expenditures for medical care in a large number of urban families with incomes ranging from $1,200 to $2,000 per year, relating to the years 1928 to 1931, disclosed that of each 1,000 families, 218 had medical bills in excess of $100 and 80 in excess of $200; among the 80, 16 had medical costs ranging from $400 to $700, and 4, sickness bills amounting to more than one-half of their incomes.

The figures cited explain why many millions of American families live in dread of sickness. Families with small incomes are compelled to sacrifice other essentials of decent living when serious illness strikes some member, go without needeed medical care, or depend upon the gratuitous or near gratuitous services of doctors and hospitals. A mere statement of this situation is sufficient to show that it is both unfair to the medical profession and very costly to the public.

PUBLIC HEALTH SERVICES

As stated by the medical advisory board of this committee, in a brief progress report recently filed:

> A logical step in dealing with the risks and losses of sickness is to begin by preventing sickness so far as is possible.

Much progress has been made in this respect, yet the fact remains that despite great advances in medicine and public-health protection, millions of our people are suffering from diseases and thousands die annually from causes that are preventable. The mortality of adults of middle and older ages has not been appreciably diminished. With the changing age composition of our population the task of health conservation must be broadened to include adults as well as children. Even minimum public-health facilities and services do not now exist in many large areas. Of 3,000 counties, only 528 have full-time health supervision and only 21 per cent of the local health departments were rated in 1933 as having developed a personnel and service providing a satisfactory minimum for the population and the existing problems.

Evidence is accumulating that the health of a large proportion of the population is being affected unfavorably by the depression. The rate of disabling sickness in 1933 among families which had suffered the most severe decline in income during the period 1929 to 1932 was 50 per cent higher than the rate in families whose

incomes were not reduced. For the first time in many decades the death rate in our large cities is higher this year than it was last year despite the absence of any serious epidemics. In the face of these evidences of increased need local appropriations for public health have been decreased on the average by 20 per cent since 1930. The average per capita expenditures from tax funds for public health in 77 cities in 1934 were 58 cents as contrasted with 71 cents in 1931. It is not too much to say that in many parts of the country the men and women in public-health work are very discouraged.

In this situation there is great need for a Nation-wide program for the extension of preventive public-health services. As was well stated by the Medical advisory board:

> At the present time appropriations for public-health work are insufficient in many communities, whereas a fuller application of modern preventive medicine, made possible by larger public appropriations would not only relieve such suffering but would also prove an actual financial economy. Federal funds expended through the several States in association with their own State and local public-health expenditures, are, in our opinion, necessary to accomplish these purposes and we recommend that substantial grants be made.

In accord with these principles and following the specific suggestions of the Advisory Committee on Public Health, we recommend: (1) Grants-in-aid to local areas unable to finance public-health programs with State and local resources, to be allocated through State departments of health; (2) direct aid to States in the development of State health services and the training of personnel for State and local health work; (3) additional personnel within the United States Public Health Service for the investigation of disease and sanitary problems which are of interstate or national interest and the detailing of personnel to other Federal bureaus and to States and localities. The Advisory Committee on Public Health suggested that in order to carry out these policies the total appropriation to the Public Health Service be increased by $10,000,000 per year, in contrast with $5,000,000—four cents per capita—now spent by the Federal Government in all its departments for human health services. The advisory committee also reported that the needs of the country are considerably in excess of the additional expenditures suggested but expressed the view that a larger amuont cannot be efficiently spent until necessary additional personnel has been trained and further tests of practical procedures have been made through which certain diseases can be more effectively controlled. It is not within our province to say whether the precise amount suggested should be appropriated, but we strongly endorse the recommendation for increased Federal participation in the prevention of ill health.

It has long been recognized that the Federal, State, and local Governments all have responsibilities for the protection of all of the population against disease. The Federal Government has recognized its responsibility in this respect in the public-health activities of several of its departments. There also are well-established precedents for Federal aid for State health administration and for local public facilities, and for the loan of technical personnel to States and localities. What we recommend involves no departure from previous practices, but an extension of policies that have long been followed and are of proven worth. What is contemplated is a Nation-wide public-health program, financially and technically aided by the Federal Government, but supported and administered by the State and local health departments.

HEALTH INSURANCE

The development of more adequate public-health services is the first and most inexpensive step in furnishing economic security against illness. There remains the problem of enabling self-supporting families of small and moderate means to budget against the loss of wages on account of illness and against the costs of medical services needed by their members. The nature of this problem and the nature of the risks which it involves calls for an application of the insurance principle to replace the variable and uncertain costs for individuals by the fixed and predictable costs for large groups of individuals.

Insurance against the costs of sickness is neither new nor novel. In the United States we have had a long experience with sickness insurance both on a nonprofit and commercial basis. Both forms have been inadequate in respect to the protection they furnish, and the latter--commercial insurance—has in addition been too expensive for people of small means. Voluntary insurance holds no promise of being much more effective in the near future than it has been in the past. Our only form of compulsory insurance has been that which is provided against industrial accidents and occupational diseases under the workmen's compensation laws. In contrast other countries of the world have had experience with compulsory health or sickness insurance applied to over a hundred million persons and running over a period of more than fifty years. Nearly every large and industrial country of the world except the United States has applied the principle of insurance to the economic risks of illness.

The committee's staff has made an extensive review of insurance against the risks of illness, including the experience which has accumulated in the United States and in other countries of the world. Based upon these studies the staff has prepared a tentative plan of insurance believed adequate for the needs of American citizens with small means and appropriate to existing conditions in the United States. From the very outset, however, our committee and its staff have recognized that the successful operation of any such plan will depend in large measure upon the provision of sound relations between the insured population and the professional

Underscoring ours.

practitioners or institutions furnishing medical services under the insurance plan. We have accordingly submitted this tentative plan to our several professional advisory groups organized for this purpose. These advisory groups have requested an extension of time for the further consideration of these tentative proposals, and such an extension has been granted until March 1, 1935. In addition, arrangements have been effected for close cooperative study between the committee's technical staff and the technical experts of the American Medical Association.

Until the results of these further studies are available, we cannot present a specific plan of health insurance. It seems desirable, however, to advise the professions concerned and the general public of the main lines along which the studies are proceeding. These may be indicated by the following broad principles and general observations which appear to be fundamental to the design of a sound plan of health insurance.

1. The fundamental goals of health insurance are: (*a*) The provision of adequate health and medical services to the insured population and their families; (*b*) the development of a system whereby people are enabled to budget the costs of wage loss and of medical costs; (*c*) the assurance of reasonably adequate remuneration to medical practitioners and institutions; (*d*) the development under professional auspices of new incentives for improvement in the quality of medical services.

2. In the administration of the services the medical professions should be accorded responsibilty for the control of professional personnel and procedures and for the maintenance and improvement of the quality of service; practitioners should have broad freedom to engage in insurance practice, to accept or reject patients, and to choose the procedure of remuneration for their services; insured persons should have freedom to choose their physicians and institutions; and the insurance plan shall recognize the continuance of the private practice of medicine and of the allied professions.

3. Health insurance should exclude commercial or other intermediary agents between the insured population and the professional agencies which serve them.

4. The insurance benefits must be considered in two broad classes: (*a*) Cash payments in partial replacement of wage loss due to sickness and for maternity cases, and (*b*) health and medical services.

5. The administration of cash payments should be designed along the same general lines as for unemployment insurance and, so far as may be practical, should be linked with the administration of unemployment benefits.

6. The administration of health and medical services should be designed on a State-wide basis, under a Federal law of a permissive character. The administrative provisions should be adapted to agricultural and sparsely settled areas as well as to industrial sections, through the use of alternative procedures in raising the funds and furnishing the services.

7. The costs of cash payments to serve in partial replacement of wage loss are estimated as from 1 to 1¼ per cent of pay roll.

8. The costs of health and medical services, under health insurance, for the employed population with family earnings up to $3,000 a year, is not primarily a problem of finding new funds, but of budgeting present expenditures so that each family or worker carries an average risk rather than an uncertain risk. The population to be covered is accustomed to expend, on the average, about 4½ per cent of its income for medical care.

9. Existing health and medical services provided by public funds for certain diseases or for entire populations should be correlated with the services required under the contributory plan of health insurance.

10. Health and medical services for persons without income, now mainly provided by public funds, could be absorbed into a contributory insurance system through the payment by relief or other public agencies of adjusted contributions for these classes.

11. The role of the Federal Government is conceived to be principally (*a*) to establish minimum standards for health insurance practice, and (*b*) to provide subsidies, grants, or other financial aids or incentives to States which undertake the development of health insurance systems which meet the Federal standards.

Underscoring ours.

On February 16, 1935, the Associated Press carried the following news item: "The American Medical Association today reiterated its vigorous opposition to compulsory sickness insurance plans being studied by the President's Committee on Economic Security. But it tempered its stand by approving projects for setting up systems of voluntary illness insurance on a community basis."

Apathy.

In spite of President Smith's urgent appeal to the membership at large of the Medical Society of Virginia to meet in Richmond with the Council when it considered the other day the most important matter that it has ever considered at an *ad interim* meeting, only a corporal's guard put in its appearance. The question before the gathering was what shall be the attitude of the profession of Virginia toward approaching legislation directed at setting up sickness insurance in this country which seems certain to follow the forthcoming report of the President's Committee on Economic Security. No definite action was taken. There were those who wished to oppose any attempt on the part of the Federal Government to inaugurate health insurance

in this country, contending that it has not worked in other countries, gives an inferior order of medical service, underpays and degrades the physician; and there were those who advocated a cooperative attitude, proposing that we fall in line with the Government and direct our efforts toward protecting the medical profession against particular abuses known to exist in certain types of health insurance, arguing that from an inside position much more effective work could be done than from an outside. The position taken by the Council was a compromise, apparently completely satisfactory to neither point of view. As the matter now stands we are committed to the policy of watchful waiting.

It is doubtful if we can stand aside much longer. The physicians of Virginia will certainly have other opportunities to express themselves on this subject. Perhaps another meeting of the Council will be called and the profession of Virginia will again be invited to sit in with them. Certainly at the meeting of the Society in October this will be a burning issue.

Come Let Us Reason Together.

For the next few months we are in for considerable discussion of what, for want of a better term, we have fallen into the habit of calling medical economics. Up to the present time physicians have been altogether too much given to considering this question from their own point of view. In every case of illness there are two parties to be considered, the patient and the doctor. In this dual relation the doctor has always prided himself upon putting the patient's interest before his own. He must adhere to this principle in discussing medical economics.

We cannot afford to turn a deaf ear to what the public is saying, remembering that in Virginia patients outnumber doctors by about 1,000 to 1. Laymen are reading, writing and talking about economic security and the medical care of the American people is much on their hearts and minds. We are no longer dealing with the propaganda of a few Foundations or socialistically inclined radicals or even of a noisy group close to the Administration. The daily papers, current magazines, women's clubs, councils of social agencies are actively discussing health insurance.

There is probably no way to stop some of the social legislation now brewing in the country, probably no way to avoid National Health Insurance. But there is a golden opportunity now offered for the medical profession to come forward and steer the hand that writes the laws under which these things will shortly operate. Our help is desired. Our help is necessary. We better than any other group know the dangers and weaknesses of these experiments. Self interest urges cooperation. The public attitude demands it.

The Air Hazard.

The theory of air borne infection in the sense that that term was employed a hundred years ago has been exploded. In the respiratory diseases, droplet infection has been properly regarded as of the first importance. Until recently to keep at a safe distance from a coughing, sneezing, talking patient, or to interpose some barrier such as the gauze mask, was deemed sufficient. But now William F. Wells of the Harvard University School of Public Health comes forward with disquieting news. He appears to have shown that there are two types of droplets sprayed into the air by the cougher. With the first we are familiar. They are relatively large particles and fall to the floor in a short while and within a few feet of where they are ejected. The other type of droplet, to which little attention has been paid so far, is minute and evaporates before it can reach the floor. In consequence the bacteria it contains are left suspended to float here and there subject to air currents. It has been shown that the diphtheria bacillus, the pneumococcus and certain strains of streptococci may remain viable and suspended in air for as long as forty-eight hours.

If this report can be substantiated the implications are clear. It now becomes apparent that it is not only imperative to keep out of the path of the cougher, sneezer or voluble conversationalist who harbors virulent respiratory organisms, but that we enter the room in which such persons have been for any length of time at great hazard, and that something must be done to protect the well from this type of droplet infection. Obviously the line of attack must be directed at the cougher, sneezer and talker, either in the prevention of droplet contamination of the air or by rendering the air innocuous.

Thromboplastic Agents.

Oscar W. Bethea, in a recent issue of the *International Medical Digest,* has rendered a distinct

service to the medical profession by calling attention to the utter worthlessness of most so-called thromboplastic agents. Into the limbo of discarded therapeutic procedures he has placed an impressive array of these supposed remedies. The list includes normal horse serum, diphtheria antitoxin, coagulose, hemoplastin, coagulen, brain lipoid, cephalin, solution of brain extract, fibrogen, stypticin, styptol, and gelatin. The question mark is appended to the use of calcium, ergot, epinephrin and whole blood injections. In the author's opinion only the transfusion of whole blood has stood the test of time and is still to be regarded as the one great thromboplastic measure.

Good-Bye Miss Dinwiddie—and Thank You.

Miss Emily W. Dinwiddie, former Director of the Children's Bureau of the State Department of Public Welfare, has left the State of Virginia. While director of this bureau she made a survey of the State hospitals for mental patients, their receiving systems and their hospitalization needs. This report, although it appeared last year, has not received the public recognition it deserves. It is exhaustive, thoroughly documented, revealing, and, in places at least, provocative of chagrin.

Miss Dinwiddie begins by pointing out that more than 9,000 new admissions were received by the four State sanitaria during the last four years and that the rate of increase of patients to population is mounting each year, especially among the colored people, and that this is a large problem that must shortly be solved.

In reviewing the present receiving system of these institutions it is shown that there are at present several ways in which a patient may enter one of the State hospitals. In an emergency he may be sent there on certificate of a physician. This is a temporary type of admission and is rarely resorted to. He may be committed by two physicians and a judge or justice of the peace sitting as a commission of lunacy. This is the usual method in operation in Virginia. It is antiquated, subject to delay and expense, and is being discarded by more progressive communities. Finally, the law provides for voluntary admission. There are many obvious advantages to this method, but in Virginia it is little resorted to, because patients entering the hospital by this route have to pay their own expenses. This is obviously an example of the State's being penny wise and pound foolish.

Attention is next drawn to the most iniquitous feature of our present system, the custom—the frequent custom—of lodging the committed person in jail pending his delivery to the State hospital. About half of the annual admissions to the hospitals have gotten there through the jail as an intermediary station. The time spent in jail may be quite long. Miss Dinwiddie refers to one case in which it was for some months. One does not have to point out that our jails are not calculated to benefit mental disease, especially in the depressed, the hypersensitive, the fearful. Still more astonishing is the reason for this delay. It seems that the jail authorities are paid $1.00 a day for the custodial care of these unfortunate charges—more than is paid for other inmates. It is therefore profitable to retain the insane in jail. Miss Dinwiddie remarks, "It is not pleasant to know that Virginia paid over 11,000—in fact almost 12,000—patient day's board in jail last year . . ." This smacks of the Middle Ages.

The report refers to the overcrowding that prevails in all of the hospitals, especially in the Central State Hospital where the hospital population exceeds the theoretical capacity by 390. Reference is made to the great need for nurses' homes, attendants now being quartered in close proximity to patients. Emphasis is also placed upon the utter inadequacy of our institutional care of the feebleminded. For this situation several valuable recommendations are presented—the use of foster families in which to board suitable patients, colony developments, and the use of emergency tents.

Discussing treatment and training service for patients, the investigation shows that inadequate segregation exists—the proper segregation of the tuberculous, for instance, is stressed. Inadequacy of professional personnel is next discussed. It appears that the American Psychiatric Association recommends 1 physician to every 150 patients. The Central State Hospital with more than 3,000 patients has five physicians aside from the Superintendent. The recommended ratio of trained nurses to patients is 1 to 8. In Virginia the ratio is 1 to 272. At first glance the need for social workers among mental patients must be apparent. In Virginia we have 1. New York employs 51. Miss Dinwiddie, while com-

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mending the psychiatric pavillion at the University of Virginia Hospital, thinks we should have psychiatric hospitals in Virginia such as the one which composes a part of the New York Medical Center, and, while praising the work that has been done in sterilizing the feebleminded, she believes the work should be carried forward much faster and upon a much wider scale.

The report next considers what can be done to prevent mental disease in Virginia. We apparently need mental hygiene clinics and more hospital social service. Only beginnings have been made in the creation of the State Mental Hygiene Clinic, the Children's Memorial Clinic in Richmond and the Child's Guidance Clinic in Charlottesville. We require traveling psychiatric clinics. We should have a real mental hygiene program for the schools where 2 per cent of the children are said to be in need of some sort of skilled mental guidance. We need community supervision, we lag in mental hygiene education and we are woefully deficient in the means and fruits of research. The report closes with a number of admirable recommendations which should quickly be followed up.

Virginia, the mother of the institutional care of the insane in this country, is a laggard in psychiatric progress. To whom can we appeal to set the house in order? To the General Board of the Hospitals? Boards are long and hard and narrow and full of splinters. To the legislature? That body is assumed to be the mouthpiece of the people. It is then to the people of Virginia, to their pride, to their humanitarianism, that we must appeal. This can be accomplished only through education, and who is better prepared to inform the people of the State than the physician?

Department of Clinical and Medical Education of the Medical Society of Virginia

Pediatric Course to be Given in South Boston.

The Department has completed arrangements for conducting in South Boston, beginning March 5th, a postgraduate course in Pediatrics. Dr. Samuel F. Ravenel, of Greenville, S. C., has been engaged to give the course. Dr. Ravenel is a graduate of Johns Hopkins University Medical School. He has practiced as a specialist in Pediatrics for several years in Greenville, and in Greensboro, N. C. He is a regular lecturer and clinician at the Southern Pediatric Seminar held each summer at Saluda, N. C. He is highly recommended by leading pediatricians in the East.

The meetings in the South Boston course will be two a week, on Tuesdays and Wednesdays, for a five-week period. The topics under consideration in the order in which they be will be discussed are as follows:

Problems of the newborn.
Infant feeding.
Advances in the therapy of contagious diseases; protective immunization.
Common respiratory infections.
Common gastro-intestinal disorders.
Dehydration—acidosis—alkalosis.
Diseases of the G-U tract.
Diseases of the blood.
Endocrine disorders.
Common diseases of the central nervous system.

Secretary Takes Part in National Program.

The Executive Secretary of the Department has accepted an invitation to attend the meetings of the Council on Medical Education and Hospitals of the A. M. A. on February 18th and 19th in Chicago and discuss a paper on extension teaching in medicine by Dr. Charles G. Heyd, the Professor of Clinical Surgery at the New York Postgraduate Medical School. The fact that a representative of the Department has been invited to participate in this program of the A. M. A. on extension teaching in medicine is a recognition of the work that the Medical Society of Virginia is doing in this field.

Lecture Notes Still Available.

Once more we remind the readers of this column

that there are still available a few copies of the mimeographed lecture notes on prenatal and postnatal instruction by Dr. Lapham. Sets of these notes will be sent free so long as the supply is unexhausted.

GEORGE B. ZEHMER,
Executive Secretary.

Proceedings of Societies

Virginia State Board of Medical Examiners.

Following is a list of applicants who were licensed at the December, 1934, meeting of the Board to practice medicine in Virginia:

Dr. James Van Allen Bickford, Jr., Norfolk, Va.
Dr. Russell von Lehn Buxton, Philadelphia, Pa.
Dr. Joseph Dingus Culbertson, Norton, Va.
Dr. Lester John Dugan, Clarendon, Va.
Dr. David Samuel Garner, Richmond, Va.
Dr. Kenneth Newton Gould, Stonega, Virginia.
Dr. John Abb Payne, III, Norfolk, Va.
Dr. Joseph Alexander Robinson, Bluefield, W. Va.
Dr. Roy Edmund Schirmer, Bonny Blue, Va.
Dr. James William Tankard, Philadelphia, Pa.
Dr. Edwin A. Harper, Bedford, Va.
Dr. David Davis Hatfield, Yukon, W. Va.
Dr. John William Kennedy, Norfolk, Va.
Dr. Frederick Byrne Mandeville, Richmond, Va.
Dr. James Franklin Hays, Yorktown, Va.
Dr. H. L. Henry, Capon Bridge, W. Va.
Dr. Joseph Junius Jones, Jr., Hampton, Va.
Dr. Clarence Edwin Keefer, University, Va.
Dr. Verlin Estelle Miles, Vienna, Va.
Dr. Lawrence John Motyca, Norfolk, Va.
Dr. Clifford Lee Mullen, Richmond, Va.
Dr. Charles Darwin Thomas, Sanatorium, N. C.
Dr. James Savage Woodward, Lynnhaven, Va.
Dr. Joseph Wall Wycoff, Brooklyn, N. Y.

The Mid-Tidewater Medical Society

Held its regular quarterly meeting at West Point, Va., on January 22nd. At the morning session a business meeting was held, at which time Dr. Robert Hoskins presided and inducted into office the incoming president Dr. E. L. W. Ferry, of Millers Tavern. Dr. Ferry during the past year has been president-elect. Luncheon was served to the members and visitors at Trice Hotel, those present being Drs. M. H. Eames, J. R. Parker, Paul Pearson, Warner Lewis, Horace Hoskins, Robert Hoskins, Jas. W. Smith, Harry Tabb, Jas. D. Clements, R. D. Bates, Virgil Stiff, Hawes Campbell, Sr., Ned Ferry, W. S. Cox, William E. Croxton and M. H. Harris. The following visitors were guests of the society: Drs. F. S. Johns, Rob Bates, J. McCaw Tompkins, and J. Morrison Hutcheson, of Richmond, and Mr. Leroy Riddle, of West Point, Va.

An interesting and instructive program was heard in the afternoon. Dr. J. Morrison Hutcheson spoke on "The Circulation in Pneumonia." His talk was followed by Dr. J. McCaw Tompkins, who spoke on "The Treatment of Pneumonias." A general discussion by the members was led by Dr. Horace Hoskins.

Dr. Tompkins in speaking of the prevention of pneumonia emphasized the importance of treating colds and grippe as a potential pneumonia, admonishing the physicians that many of these cases led to pneumonia and could have been prevented by rest in bed and proper care of the slight minor ailment.

The meeting adjourned to meet on the fourth Tuesday in April at Saluda.

M. H. HARRIS, *Secretary.*

Arlington County Medical Society.

The following have been elected as the officers of this Society for the year 1935: President, Dr. Richard N. Sutton; vice-president, Dr. P. M. Chichester; secretary-treasurer, Dr. Alfred M. Palmer. All are of Clarendon, Va.

Accomac Medical Society.

The annual election of officers was held at a regular meeting of the Society in the Drummondtown Tavern, on January 8th, and resulted as follows: President, Dr. J. Fred Edmonds, Accomac; vice-president, Dr. Alva Mathews, Oak Hall; and secretary-treasurer, Dr. John W. Robertson, Onancock, who was re-elected after serving a number of years.

The meeting then adjourned to meet with the Eastern Shore of Virginia Physicians Journal Club. At this meeting, papers were presented by Dr. W. W. Kerns, of Bloxom, on Pneumonia, and Dr. G. W. Holland, of Eastville, on Dislocations.

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Eastern Shore of Virginia Physicians Journal Club.

The February meeting of the Club was held on the 12th in the Northampton-Accomac Memorial Hospital at Nassawadox, Va. Dr. William T. Green, of Nassawadox read a paper on Refraction of the Eye, the discussion on this being led by Dr. J. Fred Edmonds, of Accomac. Dr. Joseph H. Hiden, Pungoteague, then presented a paper on Scarlet Fever and the discussion on this was opened by Dr. John Hamilton, of Nassawadox.

The Journal Club is filling a need on the Eastern Shore in cementing the physicians into a closer social and professional contact, the membership being composed of the physicians of both Accomac and Northampton counties. The meetings are well attended and the programs are most interesting and instructive.

JOHN W. ROBERTSON,
Secretary.

The Roanoke Academy of Medicine

Held its second hospital meeting at the Lewis-Gale Hospital, January 21st, at 8:30 P. M.

The following scientific program was presented:

Sarcoma of the Thigh—Case Report—Dr. Paul Davis.

Some Observations on the Relationship between Maxillary Sinusitis and Middle Ear Infections—Dr. G. M. Maxwell.

Hypothyroidism—Dr. B. P. Seward.

Trochobezoar—Report of a Case—Dr. J. T. McKinney.

Brain Injury—Case Report—Dr. M. A. Johnson.

Following the meeting refreshments were served.

On February 4th, the Academy held a dinner meeting at the Elks Club. At this time they had two guest speakers—Dr. T. M. Rivers, of the Rockefeller Institute, New York, who spoke on "Virus Encephalitis," and Dr. Emil Novak, of Johns Hopkins Medical School, Baltimore, whose subject was "Gynecological Aspects of Endocrinology." Besides the visiting speakers, a number of out-of-town guests were present for the dinner and addresses.

Dr. W. P. Jackson and Dr. Frank Helvestine, Jr., are president and secretary, respectively, of the Academy.

Postgraduate Medical Society of Southern Virginia.

The annual meeting of this Society was held on February 26th, at the City Point Inn, Hopewell, with a most interesting program. In addition to papers by Drs. S. E. Gunn, Hopewell, C. E. Martin, North Emporia, and C. T. Jones, Petersburg, there was a symposium on Anterior Poliomyelitis, in which papers were presented by Drs. Mason Romaine, Wilbur M. Bowman, Leta J. White and W. B. McIlwaine, all of Petersburg. The meeting was followed by a subscription dinner at 7:00 P. M.

News Notes

Date Set for Annual Meeting, Medical Society of Virginia.

At the meeting of the Council of the Society on February 11th, the dates for the sixty-sixth annual meeting were set as October 15th, 16th, and 17th, in Norfolk. Dr. William Lett Harris, Bank and Charlotte Streets, that city, has been named by the President of the Norfolk County Medical Society as chairman in charge of arrangements for this meeting.

Educational Material on Cancer Available in Virginia.

Dr. J. Shelton Horsley, Richmond, chairman of the Virginia Section of the American Society for the Control of Cancer, states that this body has for demonstrations to groups of professional or lay persons the following material:

The Canti Cancer Film, one reel, 16 mm. width.

One set of slides on cancer of the breast.

One set of slides on cancer of the uterus.

Two film strips on "Fight Cancer with Knowledge" and "Cancer: Its Life History."

One small projector for showing the two film strips.

The custodian of this material is Dr. Fred J. Wampler, Professor of Preventive Medicine at the

Medical College of Virginia. This material can be obtained by the application of responsible individuals to him, and by payment of postage or transportation both ways.

These slides and films should provide interesting programs for meetings of local societies and we hope many may avail themselves of this offer.

The American Society for the Control of Cancer, 1250 Sixth Avenue, New York, N. Y., has also issued a list of literature which is available to doctors. The State Chairman, Dr. Horsley, will be glad to furnish a list of the books to be secured, upon request to him at 617 West Grace Street, Richmond, Va.

News Notes from Medical College of Virginia.

Dr. Walter L. Bierring, President of the American Medical Association, addressed the students of the college on February 13th.

Several hundred Richmond alumni held a chapter organization meeting February 12th. Officers elected were: Dr. Roshier W. Miller, President; Dr. Henry W. Street, Vice-President; Miss Annie Franks, Secretary, and Mr. J. A. Reese, Treasurer. Committees were appointed and tentative plans made looking toward the Centennial Celebration in 1938.

The regular staff meeting was held February 14th. The program was as follows:

Impressions of a Recent Clinical Trip, by Dr. E. L. Kellum.

Preventive Pedodontia, by Dr. H. T. Knighton.

Preliminary Report: Role of Vitamin A Deficiency in Etiology of Lupus Erythematosa, by Dr. Powell Williams.

Governor George C. Peery has accepted the invitation of the college to make the commencement address.

Outpatient Department figures for the month of January show 5,145 patient visits by 2,414 patients.

Dr. A. H. Fuller, of West Upton, Massachusetts, was a recent visitor to the college. Doctor Fuller had not been back in Richmond since his student days here and was much pleased with the substantial progress the college had made.

Dr. J. B. Jones, '32, now located at Canadensis, Pennsylvania, was also a recent visitor.

A Memorial service in honor of Dr. Rudolf B. Teusler, '98, was held February 10th, at Monumental Episcopal Church of which Doctor Teusler was a member.

Dr. William T. Sanger, President, attended the Annual Congress of the Council on Medical Education and Hospitals, Chicago, February 18th-19th.

News From University of Virginia, Department of Medicine.

On January 21st Dr. J. T. Murphy, of Toledo, and Dr. Plin Morse, of Detroit, spoke before the University Medical Society on the subject of Bone Tumors: their Clinical, Radiological and Pathological Aspects.

On January 23rd Dr. C. C. Speidel addressed the Montreal Neurological Institute on Nerve Injury and Recovery.

At the meeting of the University Medical Society on February 6th, Dr. Thomas Fitz-Hugh, Jr., of the Department of Internal Medicine of the University of Pennsylvania, spoke on Pernicious Leukopenia (agranulocytic angina): Its clinical and experimental background and present status.

Dean J. C. Flippin attended the special meeting of the House of Delegates of the American Medical Association in Chicago on February 15th, and the meetings of the Council on Medical Education and Hospitals on February 18th and 19th.

Jefferson Medical College.

The William W. Root Alpha Omega Alpha Lecture was delivered in the College Building by Professor William K. Gregory, A. M., Ph. D., of Columbia University and The American Museum of Natural History, Friday evening, January 18, 1935, on "The Origin, Rise and Decline of Homo Sapiens."

Married.

Dr. Samuel Gilmore Saunders, class of '33, Medical College of Virginia, formerly of South Hill,

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Va., and Miss Kathleen Easley, Clarksville, Va., January 17th. They will make their home in Loudon, Tenn., where Dr. Saunders is now resident physician in charge of the Harrison Memorial Hospital.

Dr. Thomas F. Staley and Mrs. Alta Carr Daniel, both of Bristol, Va.-Tenn., the middle of January. They are spending the winter in Florida.

Dr. Leon R. Staton, Lynchburg, Va., and Miss Nancy W. Terrell, Palmyra, Va., January 12th. Dr. Staton has been interning at the Lynchburg General Hospital.

Dr. Robert Stuart Roberson, Hazelwood, N. C., and Miss Eunice Simons, Colerain, N. C., December 27th. Dr. Roberson is a member of the class of '30, Medical College of Virginia.

Dr. Leo Jacobs, formerly of Richmond, Va., and Miss Esther Bloom, Covington, Ky., February 14th. Dr. Jacobs is a member of the class of '27, Medical College of Virginia, and made his home in Covington, Ky., for several years. He is now specializing in the practice of eye, ear, nose and throat, with offices in Wainwright Building, Norfolk, Va.

The Southwestern Virginia Medical Society

Will hold its regular semi-annual meeting in Christiansburg, Friday, March 22nd, under the presidency of Dr. Beverley F. Eckles, of Galax. The secretary-treasurer, Dr. Harry W. Bachman, of Bristol, Va., announces that the program has not yet been completed. It is safe to say, however, that it will be both interesting and instructive.

Dr. Fred F. Oast,

Roanoke, Va., received an appointment as Medical Officer on the Staff of the Veterans Facility at Roanoke, effective February 4th.

Dr. H. B. Damron,

Class of '32, Medical College of Virginia, was transferred early in February from Fredericksburg, Va., to Beltsville, Md., to assume duties as Medical Supervisor for CCC Sub-district No. 10.

Dr. and Mrs. Damron have been receiving the congratulations of their friends upon the birth on January 12th of a daughter, Phyllis Ellen.

The American College of Surgeons

Will hold a sectional meeting for Virginia, Maryland, Delaware, West Virginia, and the District of Columbia in Washington, D. C., on April 11th and 12th. Headquarters will be at the Mayflower Hotel. The program will include surgical clinics at the various hospitals, hospital conferences and medical motion pictures directed by Dr. Malcolm T. MacEachern, associate director of the College. A scientific session will be held on the evening of the 11th and a public health community meeting on the 12th. There will also be a special session on Eye, Ear, Nose and Throat Surgery. The program includes many distinguished visitors. Dr. Ralph M. LeComte, Washington Medical Building, Washington, D. C., is chairman of the local committee of arrangements.

Dr. Clarence Porter Jones, Newport News, Va., chairman of the Virginia section, emphasizes the fact that a cordial invitation is extended not only the Fellows and hospitals in the various states included but to the entire medical profession. Dr. Joseph D. Collins, Portsmouth, Va., is secretary of the State executive committee.

New Health Officers Appointed.

The State Health Department announces the appointment of the following health officers in various sections of Virginia:

Dr. Willard Cardwell, of Lynchburg, Va., has been appointed health officer of the district composed of Lee, Scott, Wise and Dickenson counties, with headquarters at Norton, Va.

Dr. David Andrew will be health officer of Wythe county with headquarters in Wytheville, Va.

Dr. R. D. Hollowell, with headquarters at Harrisonburg, Va., will be health officer of the district composed of Rockingham, Shenandoah, Warren, Rappahannock, Page, Madison and Greene counties.

Dr. C. H. Dawson has been transferred from Suffolk, Va., to have charge of the health district composed of James City, York, Warwick and Elizabeth City counties. His headquarters will be at Williamsburg, Va.

Dr. D. C. Steelsmith has been appointed in charge of the Halifax and Pittsylvania county district, with headquarters in South Boston. Dr. W. H. Walcott, Chatham, Va., will be assistant health officer to this district.

Richmond Eye, Ear, Nose and Throat Society.

At the annual meeting of this Society held in February, the following officers were elected for the ensuing year: President, Dr. S. M. Cottrell; vice-

president, Dr. T. B. Weatherly; and secretary-treasurer, Dr. R. W. Vaughan. This Society holds monthly meetings.

Dr. William D. Haden,

Charlottesville, Va., was elected a member of the board of directors of the Red Land Club, at the annual meeting held recently.

Dr. Rhodric W. Browne,

Who has continued his membership in the Medical Society of Virginia since he was located in Norfolk, Va., with the U. S. Public Health Service, announces his transfer from Veterans Administration Facility, Bronx, N. Y., to the same service at Dwight, Ill.

Dr. H. S. Hedges,

Charlottesville, Va., was recently named as a member of the board of directors of the Children's Home of that city.

Dr. George E. Waters,

Class of '33, University of Virginia, who later interned at the Baltimore City Hospital, is now on a fellowship at the Johns Hopkins University School of Hygiene and Public Health. He expects later to enter health work.

Dr. Francis I. Bloise,

Until recently at Lorton, Va., is now located in Alexandria, Va., with offices at 203 North Washington Street.

Heads American Red Cross.

President Roosevelt has appointed Dr. Cary T. Grayson, former Virginian, as national chairman of the American Red Cross, succeeding the late John Barton Payne.

Dr. Walter L. Bierring,

President of the American Medical Association, was the guest speaker before the Richmond Academy of Medicine on February 12th. At this time Dr. Bierring displayed a movie, indicating the scope of activities of the American Medical Association, which employs four hundred and fifty persons in the execution of its work for the medical profession.

The Seventh International Congress on Industrial Accidents and Diseases

Will be held at Brussels, Belgium, from July 22 to 27, 1935. The American Committee of the Congress is under the chairmanship of Dr. Fred H. Albee, New York, for the Section on Accidents and that of Dr. Emery R. Hayhurst, Columbus, Ohio, for Industrial Diseases.

The American delegation to the Congress will sail from New York and visit London, Amsterdam, The Hague and Paris and optionally Budapest. Physicians interested in the Congress or in the medical tour in conjunction with it may address the Secretary, Dr. Richard Kovacs, 1100 Park Avenue, New York.

Diagnostic Cancer Clinic.

The Staff of St. Elizabeth's Hospital, Richmond, Va., has opened the St. Elizabeth's Diagnostic Cancer Clinic for the diagnosis of indigent patients suspected of having malignancy. The clinic is held at 613 West Grace Street on Tuesday and Friday of each week, from 1:30 to 2:30 P. M. Patients are received at the clinic upon recommendation of their family physicians.

Dr. Ernest C. Shull,

Herndon, Va., was recently made chairman of the Health Committee of the Fairfax County Federation of Parents and Teachers.

Dr. Frederick W. Shaw,

Professor of Bacteriology and Parasitology at the Medical College of Virginia, Richmond; Dr. F. M. Johns, of Tulane University, New Orleans, and Dr. W. D. Stovall, of Wisconsin University, Madison, form a sub-division of the Research Committee of the American Society of Clinical Pathology for the study of Pathogenic Fungi, several years being given them in which to elaborate their report.

Dr. J. Randolph Perdue,

Class of '32, University of Virginia, Department of Medicine, who served a rotating internship at Jefferson Hospital, Roanoke, Va., and later had eighteen months work in obstetrics and gynecology at Duke University, Durham, N. C., has opened offices in Ingraham Building, Miami, Fla. His practice will be limited to obstetrics and gynecology.

Dr. L. T. Stoneburner,

Richmond, Va., was elected president of the board of directors of the Lewis Ginter Community Building, at its annual meeting held on February 12th.

One Hundred and Fifty Years of Publishing.

On January 25th Lea & Febiger, publishers of Philadelphia, celebrated the completion of one hun-

dred and fifty years of continuous activity. The business was established in 1785, antedating the Constitution of the United States by four years. Since then it has been in continuous operation in the same family, one of the members of the present firm being a great-great-grandson of Mathew Carey, the founder.

In the early days this firm gave its attention to general literature, but later it began specializing in medicine and has continued in this field to the present time. Since 1859 it has been the publisher in America for Gray's Anatomy, the most famous work in all medical literature, and the one which has been term "The Bible of Medicine." It also publishes The American Journal of the Medical Sciences, now in its one hundred and fifteenth year of continuous publication.

A most attractive booklet, giving the history of this firm, has been prepared by them.

The American Neisserian Medical Society

Was founded on June 12, 1934. It is dedicated to the promotion of knowledge in all that relates to the gonococcus and gonococcal infections, that there may be attained improvement in the management of gonorrhea and a reduction in its prevalence. There are 115 charter members and the officers are: Honorary President, Dr. Edward L. Keyes, New York; President, Dr. J. Dellinger Barney, Boston; Vice-Presidents, Dr. P. S. Pelouze, Phialdelphia; Dr. A. L. Clark, Oklahoma City; Dr. Walter Clarke, New York City; Dr. R. D. Herrold, Chicago; Dr. N. A. Nelson, Boston, and Secretary-Treasurer, Dr. Oscar F. Cox, Jr., Boston. These also compose the Executive Committee.

The society plans to carry out the following program:

A. The scrutiny of the management of gonorrhea in both male and female.

B. Clinical and laboratory research in the diagnosis, medical and social pathology, and the treatment of gonorrhea.

C. Dissemination among the medical profession and the public of authoritative information concerning gonorrhea.

Membership is limited to:

A. Residents of the United States or its territories, Canada or Mexico.

B. Graduates of a medical school recognized by the American Medical Association.

C. Those who are engaged in some phase of the management of gonorrhea.

Invitation to membership is extended to all qualified physicians who desire to work for improvement in the management of gonorrhea. Application blanks can be obtained from Oscar F. Cox, Jr., M. D., Secretary, 475 Commonwealth Avenue, Boston, Mass.

Dr. A. M. Showalter,

Christiansburg, Va., was elected one of the grand stewards of the Grand Lodge, Ancient Free and Accepted Masons, of the Commonwealth of Virginia, at the annual communication held in Richmond the middle of February.

Postgraduate Clinic and Stuart McGuire Lectures.

The Postgraduate Clinic of the Medical College of Virginia will be held again this year in conjunction with the Stuart McGuire Lectures. The program has not been completed, but it is being planned around the general idea of physician's part in the prevention of diseases. Contraceptive techniques and appliances will also be discussed and demonstrated.

Dr. William Robert Weisiger,

Richmond, Va., was appointed District Deputy Grand Master of the 15th Masonic District at the 157th Grand Annual Communication of the Grand Lodge of Virginia A. F. and A. M., held recently in Richmond, Va. This compromises the twenty-five Masonic Lodges located in Richmond and vicinity. Dr. Weisiger, who is a Past Master of Dove Lodge No. 51, had the distinction of receiving the unanimous endorsation of the twenty-five Lodges for this appointment and had the honor of receiving his warrant from the hands of the Grand Master himself.

The Tri-State Medical Association of the Carolinas and Virginia,

At the conclusion of the largest meeting in its history, in Charlotte, N. C., February 18th-20th, under the presidency of Dr. Paul V. Anderson, of Richmond, Va., elected the following officers for the ensuing year: President, Dr. C. C. Orr, Asheville, N. C.; vice-presidents, Dr. J. M. Hutcheson, Richmond, Va.; Dr. C. R. May, Bennettsville, S. C.,

and Dr. Frank C. Smith, Charlotte, N. C.; secretary-treasurer, Dr. J. M. Northington (re-elected), Charlotte, N. C. The following councilors were also elected to serve for three years: Dr. W. Lowndes Peple, Richmond, Va.; Dr. J. H. McIntosh, Columbia, S. C., and Dr. T. C. Bost, Charlotte, N. C. It was voted to hold the 1936 meeting in Columbia, S. C.

Endorses Revision of Food and Drugs Act.

Attention was brought to the Council of the Medical Society of Virginia, at its meeting in February, that the Council on Pharmacy and Chemistry and the Committee on Foods of the American Medical Association had adopted statements concerning a revision of the Food and Drugs Act, which had been endorsed by the Board of Trustees of the Association and presented the legislators concerned with a consideration of new legislation on these subjects. This action was due to the fact that in the thirty years since the Federal Food and Drugs Act became a law, there have been notable developments and numerous changes which have made the present law inadequate to meet modern conditions.

The Council of the Medical Society of Virginia adopted a resolution endorsing the action of the American Medical Association.

Doctors Enrolled for Spring Graduate Course.

The following doctors have registered for the Spring Graduate Course to be held in the Gill Memorial Eye, Ear, and Throat Hospital, Ronaoke, Va., April 15th-20th, according to list furnished on February 18th:

Dr. G. Edward Campbell, Johnson City, Tenn.
Dr. E. Vermillion, Welch, W. Va.
Dr. M. R. Gibson, Raleigh, N. C.
Dr. Milton A. Gilmore, Hopkinsville, Ky.
Dr. G. L. Morriss, Kenbridge, Va.
Dr. J. P. Ramsour, Gastonia, N. C.
Dr. Hood, Gastonia, N. C.
Dr. A. M. Walker, Tuscaloosa, Ala.
Dr. C. C. Chase, Middletown, Conn.
Dr. W. D. Gemmill, Monessen, Pa.
Dr. Gilbert L. Dailey, Harrisburg, Pa.
Dr. J. R. McCracken, Waynesville, N. C.
Dr. J. F. Martin, Dunn, N. C.
Dr. F. L. Alloway, Kingsport, Tenn.
Dr. Frank Vierling, Knox, Pa.
Dr. O. H. Bobbitt, Charleston, W. Va.
Dr. L. W. Glatzau, Daytona Beach, Fla.
Dr. P. H. Kilbourne, Dayton, Ohio.
Dr. Meade Edmunds, Petersburg, Va.
Dr. C. H. Henderson, Norton, Va.
Dr. E. C. Bryce, Richmond, Va.
Dr. William Leuders, Jr., Staunton, Va.
Dr. H. C. Hughes, DuBois, Pa.
Dr. W. Hamilton Smith, Hagerstown, Md.
Dr. C. H. McArthur, Rome, Ga.
Dr. C. K. Gabriel, Quincy, Ill.
Dr. D. S. Hagood, Brewton, Ala.
Dr. G. B. Woodward, Wilson, N. C.
Dr. A. D. Erehart, Anderson, Ind.
Dr. N. G. Erehart, Anderson, Ind.
Dr. L. F. Swihart, Elkhart, Ind.
Dr. S. R. Lucas, Florence, S. C.
Dr. M. R. Mobley, Florence, S. C.
Dr. Walter Bristow, Columbia, S. C.
Dr. J. W. Adrain, Lorain, Ohio.
Dr. J. Allen Smith, Macon, Ga.
Dr. C. W. Beals, DuBois, Pa.
Dr. Edward S. Wright, Atlanta, Ga.
Dr. Thomas E. Hughes, Richmond, Va.
Dr. J. R. Vermillion, Princeton, W. Va.
Dr. A. M. Whisnant, Charlotte, N. C.
Dr. T. E. Bradley, Fitzgerald, Ga.
Dr. Herman J. Williams, Cordele, Ga.
Dr. Claude T. Wolfe, Louisville, Ky.
Dr. J. H. Simpson, Louisville, Ky.

"Make Maternity Safe"

Is the key-note of the fifth Mother's Day campaign to improve maternity care which is conducted by the Maternity Center Association. Mrs. Shepard Krech, president of the Association, has sent out a widespread call for the cooperation of churches, women's clubs, civic and educational institutions, offering without charge to supply groups with suggestions for local programs.

Information may be obtained from the Maternity Center Association, 1 East Fifty-Seventh Street, New York, N. Y.

Typing Done at Reasonable Prices.

Doctors desiring manuscripts and other papers typed may secure reasonable rates from person who has had considerable experience in this work by communicating with "Typist," care of Medical Society of Virginia, or phone 3-0067. (*Adv.*)

For Sale—

Burdick Quartz Mercury Lamps. Slightly used. May be seen at Surgical Laboratory Show Rooms on 12th Street, between Broad and Marshall Streets, Richmond, Va., or write W. O. Hester, 3122 West Grace St., Richmond, Va. (*Adv.*)

Obituary Record

Dr. Robert Camden Whitehead,

Prominent diagnostician of Norfolk, Va., died suddenly from a heart attack on January 27th. He was a native of Amherst County, Virginia, and graduated in medicine from the former University College of Medicine, Richmond, in 1905. After this, he practiced for a time at Amherst, before he went to Norfolk a little more than twenty years ago. He had been a member of the Medical Society of Virginia since 1906, was a member of the Norfolk County Medical Society, assistant chief surgeon of the Norfolk-Southern Railway, and a Mason. In addition to his professional work, Dr. Whitehead was a great lover of music and was one of the three organizers of the Norfolk Symphony Orchestra, and much of the success of this organization is due to his unceasing work. He is survived by his wife, two children, and a large family connection.

Dr. Charles Clifton Tucker,

For many years prominent in the professional and civic life of Blackstone, Va., died at a Richmond hospital on January 28th, after an illness of several months. He was nearly sixty years of age and a native of Nottoway County, Virginia. His medical education was received at the former University College of Medicine, Richmond, from which he received his medical diploma in 1903, and he joined the Medical Society of Virginia that year. Dr. Tucker was a Mason and at the time of his death was vice-president of the First National Bank of Blackstone. His wife and a sister survive him.

Dr. John Gibson Davis, Jr.,

Christiansburg, Va., son of Dr. and Mrs. John G. Davis, of Roanoke, Va., died January 28th. He was thirty-five years of age and graduated from the Medical College of Virginia in 1923. He was a member of his local and the State medical societies and a surgeon to the New Altamont Hospital in Christiansburg. Besides his widow, he is survived by his parents, two sisters, and four brothers, Drs. Paul, F. F., A. C., and Hal Davis, of Roanoke.

Dr. Powhatan Stanley Schenck,

For many years director of public welfare and health commissioner of Norfolk, Va., died at his home in that city on January 24th. He was born in Petersburg, Va., seventy-two years ago, and graduated from the College of Physicians and Surgeons, Baltimore, in 1884. He practiced for a time in Petersburg, specializing in diseases of the eye, ear, nose and throat, but soon turned his attention to health work and was health officer of that city before moving to Norfolk, about 1896. He immediately entered upon health work in his adopted home. With the growth of Norfolk and the enlargement of his field of activities, Dr. Schenck's outstanding work gained him national recognition. Although forced to retire from active work about three years ago, on account of ill health, Dr. Schenck was continued on the city's roster as Health Commissioner to the time of his death. He is survived by his wife and four children, one of them being Dr. George W. Schenck, of Norfolk.

Dr. William Fitzhugh Carter,

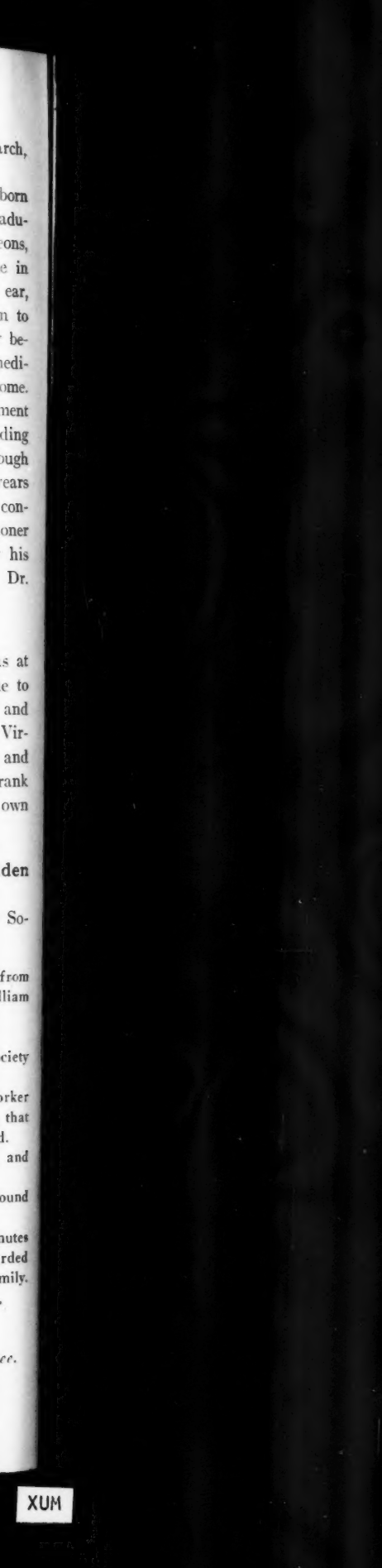
Major, U. S. Army, retired, whose home was at Crozet, Va., died January 1st, death being due to pneumonia. He was eighty-four years of age and a graduate in medicine from the University of Virginia in 1872. He entered the Army in 1879 and was promoted through the various grades to the rank of major in 1897. He was retired upon his own request in 1909.

Resolutions on Death of Dr. William Tilden Smith.

At a meeting of the Norfolk County Medical Society, the following resolutions were adopted:

WHEREAS, it has pleased Almighty God to release from this life our fellow member and co-worker, William Tilden Smith.

Therefore, be it resolved:

1. That with the passing of Doctor Smith this Society feels its loss.
2. That in his profession he was a tireless worker who was possessed of a kindly and generous spirit that prompted him to serve all those whom he contacted.
3. That he gave freely of his time, strength and means to benefit those who were less fortunate.
4. That this Society herewith conveys its profound sympathy to his wife.
5. That these resolutions be spread upon the minutes of this Society, and that a copy of same be forwarded as a memorial from this Society to his bereaved family.

CHARLES W. DOUGHTIE,
LEWIS BERLIN,
BENJ. A. DOGGETT,
Committee.